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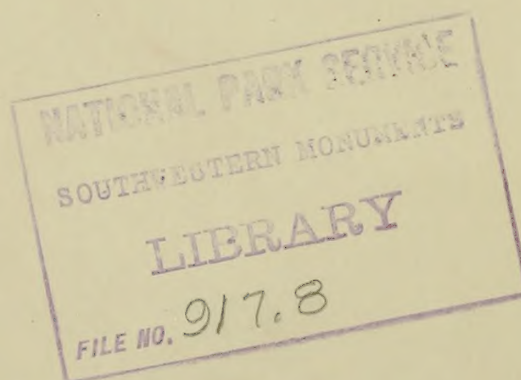
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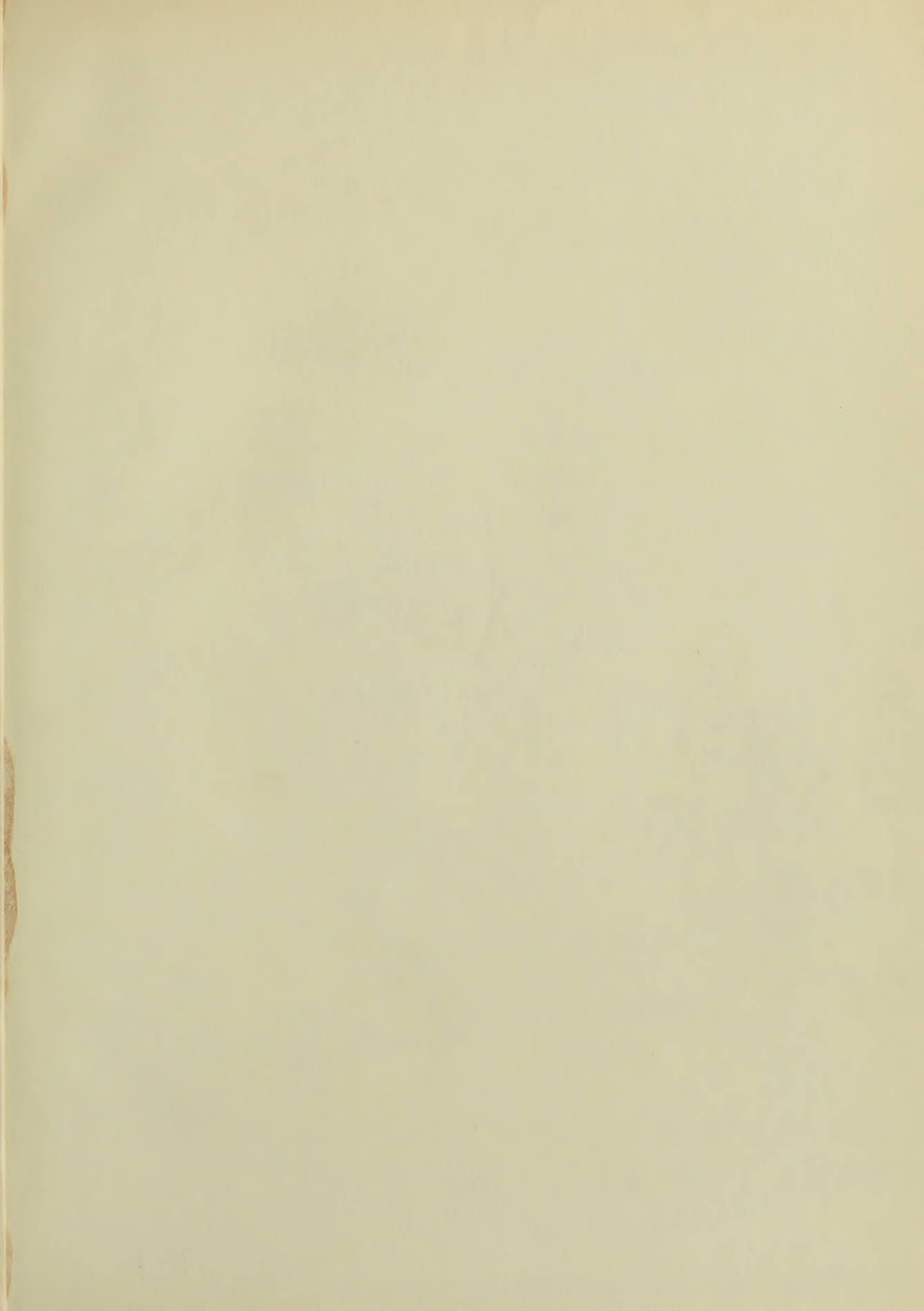


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Southwestern
Monuments . . .

MONTHLY
REPORT



JULY • '36

DEPT. OF THE INTERIOR
• N. P. S. •

SOUTHWESTERN MONUMENTS

JULY 1936, REPORT

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SOUTHWESTERN MONUMENTS PERSONEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent; Hugh M. Miller, Assistant Superintendent; J. H. Tovrea, Assistant Engineer; Robert H. Rose, Assistant Park Naturalist; Dale S. King and Charlie R. Steen, Junior Park Naturalists; Millard Singerman, Clerk-Stenographer; Luis Gastellum, ECW Clerk; Deric Nusbaum, Traveling Ranger; Clarence Cole, Student Technician.

FIELD STATIONS:

1. Arches---Moab, Utah. J. M. Turnbow, Custodian.
 2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian;
Robert W. Hart, Ranger-Archeologist.
 3. Bandelier---Santa Fe, New Mexico. Earl Jackson, Custodian;
J. W. Hendron and Alfred Peterson, temporary Rangers.
 4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian;
Doug. Harritt, temporary Ranger.
 5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
 6. Casa Grande---Coolidge, Arizona. J. W. Winter, Custodian; J. Donald
Erskine, Park Ranger; Frank Horne, acting ranger.
 7. Chaco Canyon---Crowpoint, New Mexico. Thomas C. Miller, Custodian;
Homer F. Hastings, temporary ranger.
 8. Chiricahua---Willcox, Arizona. Frank L. Fish, Custodian;
Orvel Ollinger and Bronson Harris, CCC guides.
 9. El Morro---Ramah, New Mexico. E. Z. Vogt, Custodian.
 10. Gila Cliff Dwellings---Cliff, New Mexico. No custodian.
 11. Gran Quivira---Gran Quivira, New Mexico. George L. Boundey, Custodian.
 12. Hovenweep---Cortez, Colorado. No custodian.
 13. Montezuma Castle---Camp Verde, Arizona. M. L. Jackson, Custodian;
Curtis Cox, acting ranger.
 14. Natural Bridges---Blanding, Utah. Zeke Johnson, Custodian.
 15. Navaajo---Kayenta, Arizona. John Wetherill, Custodian;
Milton Wetherill, Ranger-Historian.
 16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian.
 17. Rainbow Bridge---Rainbow Lodge, Arizona. No custodian.
 18. Saguaro---Tucson, Arizona. No custodian.
 19. Sunset Crater---Flagstaff, Arizona. J. W. Brewer, In Charge.
 20. Tonto---Roosevelt, Arizona. Woodrow Spires, Ranger.
 21. Tumacacori---Box 2225, Tucson, Arizona. Louis R. Caywood, Custodian.
 22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, Ranger.
 23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
 24. Wupatki---Flagstaff, Arizona. J. W. Brewer, Ranger.
 25. Yucca House---Cortez, Colorado. No custodian
-

CONDENSED REPORT

Coolidge, Arizona
August 1, 1936

The Director
National Park Service
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for July:

TRAVEL

	<u>July, 1936</u>	<u>July, 1935</u>	<u>July, 1934</u>
Aztec Ruins	2,089	1,675	1,691
Bandelier	2,162	2,092	1,793
Canyon de Chelly	159	163	---
Capulin Mountain	2,500	5,000	6,000
Casa Grande	1,142	1,198	1,163
Chaco Canyon	929	672	384
Chiricahua	1,017	1,760	1,368
El Morro	415	381	472
Gran Quivira	281	950	404
Montezuma Castle	1,482	1,847	1,896
Navajo	133	86	69
Pipe Spring	406	930	258
Sunset Crater	1,177	909	---
Tonto	289	324	---
Tumacacori	818	712	526
Walnut Canyon	2,384	1,982	1,822
White Sands	12,406	4,755	---
Wupatki	321	268	90
Actual Reported			
Registration	30,110	25,710	17,483

The eighteen monuments reporting for 1935 and 1936 show a substantial increase in number of visitors, 4400 or 17%.

The fourteen monuments reporting for both 1934 and 1936, however, show a decrease from 17,936 to 16,039, or.108%

Custodians all claim that the weather seems to be keeping tourists on the paved highways but two reasons are given, in some districts the extremely high temperatures are the cause, in other sections heavy rain-falls which make the secondary roads almost impassable.

CONDENSED REPORT (CONT.)

000 GENERAL

021 WEATHER

Over the greater part of the Southwest high temperatures and little or no rains prevailed. This picture is broken in a few districts where showers and cloudbursts have occurred. Chaco Canyon, Canyon de Chelly, Gran Quivira, Bandelier, El Morro, and Tumacacori have had an appreciable amount of rainfall, with two cloudbursts at El Morro. Tonto and Casa Grande have had several showers but the rains have not been general enough to ameliorate the heat. The fire hazard at Walnut Canyon and Chiricahua is very great and the custodian at Wupatki claims that range conditions are exceedingly bad.

100 ADMINISTRATION

123 VISITS OF PARK SERVICE OFFICIALS

Aztec: Chief of the Field Division of Education Ansel Hall, Junior Naturalist Dale King; Regional Geologist Chas. M. Gould; District Geologist Vincent Vandiver.

Bandelier: District Architect Richey; Chief Landscape Architect Tom C. Vint; Merle Sager, associate landscape architect; Wildlife Technician A. E. Borrell; Wildlife Technician W. B. McDougall; Ansel Hall; Dale S. King; Regional Geologist Chas. M. Gould; District Geologist Vincent Vandiver.

Canyon de Chelly: Traveling Ranger Deric Nusbaum; Chas. M. Gould; Vincent Vandiver; Ranger Wood of Mesa Verde; Associate Engineer J. B. Hamilton; Ansel Hall; Dale King.

Chaco Canyon: Dr. McDougall; A. E. Borrell; Chas. M. Gould; Vincent Vandiver;

Chiricahua: J. H. Tovrea, chief engineering aide; Landscape Architect Clinton Rose; J. B. Hamilton; Chas. A. Richey, Assistant Park Naturalist Robert Rose.

El Morro: Chas. M. Gould; Vincent Vandiver.

Gran Quivira: J. B. Hamilton.

Montezuma Castle: Ansel Hall; Dale King; Vincent Vandiver; Acting Chief of Museum Division Ned J. Burns; Junior Naturalist Louis Schellbach.

Navajo: Chas. M. Gould; Vincent Vandiver.

Pipe Spring: Chas. M. Gould; Vincent Vandiver; Al Kuehl, landscape architect.

Tonto: Ansel Hall; Dale King; Custodian Frank Fish of Chiricahua.

Tumacacori: Ansel Hall; J. H. Tovrea; Robert H. Rose; Dale King; Ned Burns; Louis Schellbach; Charlie Steen.

Walnut Canyon: W. B. McDougall; Ansel Hall; Dale King; Chas. M. Gould; Vincent Vandiver; Ned Burns.

Wupatki: Junior Naturalist Harry Getty and Ranger Ray King of the Grand Canyon National Park; Chas. M. Gould; Vincent Vandiver; Ned J. Burns; Dale S. King.

CONDENSED REPORT (CONT.)

125 OTHER GOVERNMENT OFFICERS

Aztec: Assistant Secretary of Agriculture Wilson

Pipe Spring: Gragerer, Mansfield and Hinds of the U. S. Geological Survey; L. W. Childs, Washington ECW office.

Tumacacori: Fred Winn, Supervisor Coronado National Forest; Reverend Victor Stoner, Chaplain CCC and editor of the Kiva.

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

210 UNUSUAL

CHACO Canyon: Both north and south approach roads into the monument are being maintained and at present are in a fairly satisfactory condition. Bridge over Chaco Wash collapsed again and was temporarily repaired. Funds are badly needed for a substantial bridge.

Gran Quivira: Approach roads in bad condition particularly north towards Mountainair.

El Morro: Approach roads becoming very muddy due to heavy rains.

Drivall preservative applied to inscriptions before summer rains began; cement steps again painted with copperas. Two men with a team are enlarging drainage ditches and repairing trails.

Canyon de Chelly: Roof of custodian's residence had to be re-flashed; this is under way and about 75% complete. Custodian's residence was built in a hollow and a system of trenches has had to be dug to prevent the walls from washing during and after rains.

230 NEW CONSTRUCTION

Aztec: Parking area being surfaced.

Canyon de Chelly: New stone pump house 80% complete; sewer system practically finished; small rest room for public use constructed in corner of garage.

Casa Grande: Construction of badly needed sewage disposal plant will probably be delayed several months. The present temporary and inadequate method of distributing sewage over the ground by pumping continues to be a health menace.

Chiricahua, ECW:

2275 feet of trail completed between Echo Canyon and Massai Point
700 feet on Massai Point-Balanced Rock trail

Headquarters-Portal telephone line will be completed before Aug. 1.

Utility area wall 100% complete

Grading for headquarters ranger station completed and foundations will be poured before August 1.

Maintenance of Bonita Canyon highway continued.

Bandelier, ECW:

Flagstone floor of museum building completed

Construction of Quarters No. 2 turned over to painters and carpenters.

CONDENSED REPORT (CONT.)

230 CONSTRUCTION, Bandelier (Cont.)

Refuse burner 100% complete
Spraying and insect control under Forester Fulton
Informational signs for Sunset Crater completed
All telegraph cable on hand installed.

320 COOPERATING GOVERNMENT AGENCIES

Chaco Canyon: Soil Conservation Service is building a revetment wall east of Pueblo del Arroyo and a diversion dike east of Wijiji.
Wupatki: The United States Weather Bureau has loaned an anemometer to this monument.

400 FLORA FAUNA NATURAL PHENOMENA

430 ARCHEOLOGY

Sunset Crater: "Dating the Eruption of Sunset Crater, Arizona" by J. C. MacGregor of the Museum of Northern Arizona published in American Antiquity dates the eruption by means of dendrochronology as between 860 A.D. and 910 A.D. with the most likely date as 885 A.D.

Wupatki: Room 7, as reported in April, is badly in need of troweling order to recover important sherds which are washing away.

460 BIRDS

Pipe Spring: Six birds banded.

Walnut Canyon: Seventeen birds banded.

470 ANIMALS

Chiricahua: Rattlesnake caught and shipped to University of Michigan for identification.

Walnut Canyon: Exceedingly dry weather together with the lack of springs on the monument have caused the deer to leave the Walnut Canyon area. A small herd of antelope are watering with cattle at a cistern northeast of the monument.

600 PROTECTION

630 ACCIDENTS

Chiricahua: Jesus B. Charles, CCC enrollee, wandered from camp and climbed a cliff where he was stranded for several hours. He was finally helped down without injury except to the tempers and vocabularies of the rescuers.

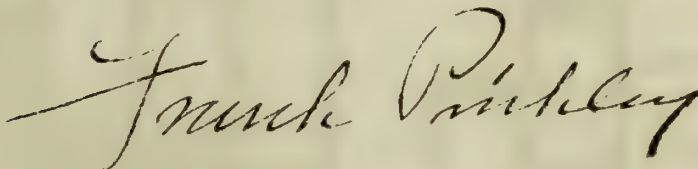
CONDENSED REPORT (CONT.)

900 MISCELLANEOUS

MAIL COUNT:

Incoming:		
Government	1,294	
Personal	670	
Total incoming	<u> </u>	1,964
Outgoing:		
Government only	1,801	1,801
Telegrams:		
Incoming	43	
Outgoing	48	
Total telegrams	<u> </u>	<u> 91</u>
Grand Total		3,756

Cordially,



Frank Pinkley,
Superintendent.

Visitors.

32000

30000

28000

26000

24000

22000

20000

18000

16000

14000

12000

10000

8000

6000

4000

2000



No
Service.

Museum
Talks.

Field
Trips.

SERVICE CHART

Showing service rendered at the Southwestern
Monuments from October, 1935, to July, 1936.

REPORTS FROM MEN IN THE FIELD

WALNUT CANYON

By Paul Beaubien, Ranger

2384 visitors arrived this month, and 1884 were "contacted" by ranger. Park Service visitors were W. B. McDougall, Dale King, Ansel Hall, Charles Gould, Vincent Vandiver, and Ned Burns.

There were 20 overnight camping parties, but three was the largest number for any one night.

This has been another dry month with very few flowers on the entire monument. There have been a few light showers but no rain. Have been fortunate in having no forest fires to date.

Usually, deer tracks can be found by walking a short distance in any direction, but with no water supply, there seems to be no deer in the vicinity now. A small herd of antelope, ranging near an old "burn" just west of the monument are watering with a rancher's cows just a few miles northeast. The water is supplied from a cistern.

Have banded 17 birds during the month - seven Crossbills, six Western Chipping Sparrows, two Western or Louisiana Tanagers, one Green-backed Goldfinch, and a Red-shafted Flicker.

CASA GRANDE

By J. Donald Erskine, Ranger

While the past week has seen very heavy travel to the Monument, the total visitors for the month gives us a low for the year of 1142 people. Of these 1133 were contacted on either the ruins or museum trips. Even though this is our off season here in the desert, our registration book shows us that 39 states, the District of Columbia, Canal Zone, Belgium, Newfoundland, Scotland, and Czechoslovakia were represented among our visitors. Arizona led naturally with about 54% of the total. California was second with 12%, Texas third with 5%, and Oklahoma fourth with 4%. (I could have sworn that Oklahoma would show the largest group.) We had no very large groups during the month. We had no Park Service visitors which we may claim, although many came to Headquarters, and we had the pleasure of meeting Custodian Budlong, of Canyon de Chelly National Monument, on July 23, and of renewing acquaintances with Frank Fish early in the month.

The weather for the month has been typical summer weather with the maximum temperature varying from 101 on July 10 to 115 on July 17. And the minimum temperatures ranging from 60 on July 12 to 82 on July 7, 15,

CASA GRANDE NATIONAL MONUMENT (CONT.)

and 16. Rain fell on July 3, 8, 9, 17 and 19, bringing the total rainfall for the month to one inch even. Generally the month has been rather blustery with much rain all around us and wind blowing off and on rather strenuously resulting in the tabulations showing only 13 clear days for the month.

On June 28 Ranger Erskine and Marie Erskine left for California where they spent two weeks annual leave with Ranger Erskine returning to duty on July 12 and Mrs. Erskine remaining in California for the rest of the summer. During his absence guiding was carried on by Cliff London and Clarence Cole. On July 11 London left for San Francisco to take a job in his own line. His place was then filled by a newcomer, Frank Horne, who is to be a teacher in the Coolidge Public Schools this coming year. Frank has stepped into the breach like a veteran and things have gone along smoothly with his assistance.

Our hopes were very high when the last report has written that maybe we would have a new sewer system by the end of August, but as it looks now it may be several months before much is done about it. Government red tape is surely inconvenient at times. At the present time the motor which runs the sewer pump is out of commission and we have been letting the system take care of itself in the hope that with the absence of several families from the Monument it will require no further pumping. It will surely be a big relief when this problem is solved permanently.

The boss and I have decided that it would be interesting to keep a record from month to month of the average time of each guide for both the ruins and museum trips. This month's guiding gives the following results:

Guide	Average time in Ruins	Average time in Museum
Erskine	31 minutes	22.8 minutes
Horne	30.6 minutes	27.2 minutes
London	28.6 minutes	22.2 minutes
Cole	27.3 minutes	24.1 minutes
Average of all four	29.4 minutes	24.1 minutes

Little of interest has occurred in the Nature line during the month. The owl family is still putting on a show for our ruins visitors, and apparently have the stage to themselves as the Pheebes have all left. Other than the normal quota of scorpions, centipedes, gnats, mosquitoes, flies, and other pests, we have seen only one blacksnake and no poisonous snakes during the month.

WHITE SANDS

By Tom Charles, Custodian

We have had a hot but pleasant month at the Great White Sands. You remember the old saying, "Shadows fall behind you when you face toward the light"? Well, Ben and I have been so busily engaged in pleasant employment that we have failed to see any shadows.

Ben has had lots of contacts with the hoard of tourists and, what is really more important to him, he has had extremely favorable results in removing the sand from the road in places where it drifts across. The highway into the sands is in much better shape than it has ever been before.

The more visitors the fewer shadows, for me, and the better I like each visitor. Along about the 3rd, 4th and 5th of July, I was about as happy as could be. There were visitors from Alaska, England, Germany, South America and Panama, and from almost every state in the union. There was a small army of Boy Scouts, holding a 4th of July celebration; there was the State President of the Rebekah Assembly, trying to hold a Grand Lodge meeting in one of the Crystal Bowls. There were 22 professors and graduate students from the University of Illinois with doctors and masters degrees galore; the Summer Picnic of the Student Body from State College; the Firemen's Annual chicken-fry with over 60 guests; there were church parties girl scouts, lodge picnics and beer drinks; there were artists, editors, biologists, botanists and scores of others.

I left the Sands on the night of the 4th, long after the moon came up and there were 35 cars, about 175 people, at the picnic ground, most of them preparing to camp for the night, practically all of them had foreign licenses.

The next morning I started back to the Monument at 7 a.m. and met 18 cars coming out between the main road and the Turn-Around. This is but a sample of the continual, three day show. On the evening of the 5th, 24 cars drove up to the registration box at one time and lined up for the little circular and a word or two about the Sands.

You know we have two good, Federal highways between El Paso and Alamogordo. The one runs directly and the other goes by way of Las Cruces and the Great White Sands. The direct route is now completed, paved all the way, and carries most of the El Paso traffic, but previous counts show that for every 5 cars on the direct route there are two cars on the White Sands road.

The Port of Entry on the direct route counted 3568 cars on the three days, July 3, 4 and 5. On the basis of that count and according to previous averages the White Sands had 2570 visitors on the three days. But from an actual, part time count on the three days our

WHITE SANDS (CONT.)

percentages show that we had 3475 people. Take your choice, I have no way of knowing which is the most accurate. I suggest that we split the difference and make it 3022.

There were so many people there that every hill from the garage to the Turn-Around was cut to pieces with active feet, every valley had a fuzzy coat of red-brown paper, the shredded wrapper of the fire cracker. It all makes a fellow wonder just how to turn in the count. The official state highway figures show that there were $1\frac{1}{2}$ cars per minute, night and day for three days, between El Paso and Alamogordo. The Lincoln National Forest reports that they had 25,000 visitors on the 4th of July. I sat beside the road in the Monument several hours each of the three days and there was an average of 46 cars an hour passing through. During that count 50% of them drove into the Sands .

All other activities are overshadowed by the attendance. Here is a sample of the week day registrations: on the 6th there were 45, on the 7th, 75; on the 8th, 80; and on the 9th, 81. On the basis of some early day counts we estimated that 20% of the total visitors registered but as I begin to work up Barry's count I find that approximately 14% register.

Here is another fact which supports the notion that we have lots of visitors at the Sands. The State Tourist Bureau counted the cars at the entrance to the Sands on Thursday, June 25; they reported 185 cars through the monument in 8 hours; that gives us something like 1200 to 1500 people a day through the monument. Thirty six percent of these stop some place in the Sands. There is nothing like being on a main highway, if you are interested in visitors.

Any way you figure it, Boss, there are big crowds at the Great White Sands. Seventy-five percent of the cars have foreign licenses and the one big kick from practically all of them is that there is no shade. Of course, there is no way of knowing which came first - the hen or the egg - and we are always facing that bugaboo of doing something to draw a crowd but it seems to me that we already have the crowd at the White Sands and they are only demanding the "physical enjoyment of their park scenery." Two weeks ago the thermometer registered 153 degrees in the sun on the White Sand and there were something over 30 cars out there that afternoon. All of them were foreign cars - it goes without saying - no local man goes to the Sands on a day like that. We need shade.

Our Sunday count this month was as follows:

June 28 -----	756
July 5 -----	1,511
July 12 -----	840
July 19 -----	770

WHITE SANDS (CONT.)

This figures give us a total Sunday count of 3,877. According to our six months' count we have 2-1/5 week day visitors for every Sunday one, giving us 7,754 week day visitors and a total of 12,406 for the month. Our registration for the month was 1,778; if 14% register it gives us 12,700 visitors, so I presume the first figure is not far off. Thirty-nine states, four foreign countries, and Alaska were represented among the visitors registered this month.

GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for the month, 281. This is the rainy season up here and the roads have been bad much of the time. One party made three attempts to reach this monument, but turned back on account of road conditions. I spent some time myself in a mud hole with six other cars between here and Mountainair. The first twelve miles of the road to Mountainair has been gravelled but the last fourteen miles is adobe soil and has not been finished yet.

We can not complain of the heat up here. Before showers it is sultry but soon cools as the rain falls. The wild flowers are beautiful. There are many more kinds on the Monument than in other portions of the surrounding country, due to the fact that cattle are not pastured on the reservation. We keep up our bird baths and though they do not come in immense flocks as they did before the rains, there is never a time when the baths are deserted.

Mr. Hamilton, engineer, and an assistant to Mr. Richy visited us on July 1. I did not know the young man with Mr. Hamilton was one of the Park Service family until they started to leave and I failed to catch the name. Two different parties, photographers, visited us during the month in the interests of the Quatro Centennial - 1940.

We also had two parties of inspectors from the PWA. The District Superintendent of the WPA visited the Monument. The old school house we purchased for a community building will be used by the WPA as an adult school with two teachers, one music and the other domestic arts.

We have been cleaning up trails and roads during our spare time. The last rains have washed the approach road considerably.

The closing of the east gate may have inconvenienced one or two of the local people but it has lightened the work on the monument a whole lot and does not work any hardship on visitors as they enter thru the main entrance where guide service is always available.

CANYON DE CHELLY

By Robert R. Budlong, Custodian

The month of July brought the rainy season upon us, and with it, the usual drop in visitor travel.

Total visitors for the month of July, 159. They made trips as follows: Rim only, 37 trips; rim and White House Trail, 5 trips; by car within the canyons, 11 trips; horseback within the canyons, 3 trips.

Average time of trips: Rim, 133 minutes each; trail, 216 minutes each; trips within canyons by car, 221 minutes each; horseback trips within canyons, 370 minutes each. Two groups spent considerable time in the office, viewing photographs, these office visits averaging 225 minutes each. There were several overlaps -- people taking more than one kind of trip.

Maximum temperature, 99 degrees, on the 20th; minimum, 40 degrees, on the 13th; greatest daily range, 51 degrees, on the 13th. Total rainfall, .15 inch. Water started flowing from the canyon mouth July 10. No cars equipped with standard tires were able to enter the canyons during the month.

The new stone pumphouse is approximately 80% complete; otherwise the water system is finished. Sewer system is practically finished, two sections of redwood filter trench having been put in place at this writing. A small rest room for public use was constructed in one corner of the garage, and an entrance constructed through the adobe wall. Plumbing fixtures have not yet been installed, though the necessary tile and water pipe have been placed, and most of the ditches backfilled.

Under the direction of Mr. Gipe, foreman on the water and sewer jobs, reflashing of the roof of the custodian's residence was commenced during the month. This work is now approximately 75% complete.

The ranger and the custodian spent considerable time exercising with pick and shovel during the month. The custodian's residence is built in an excavation, and it has been necessary to construct dams and ditches completely around the residence to keep it from washing away in the run-off from the adjacent hills during rains. Ditches dug for this purpose two months ago rapidly filled with silt, and had to be deepened. Considerable surplus earth around the house also was removed during the month. A steam shovel would come in handy.

We also constructed about forty minor check dams of rock in gullies in the hillsides by the residence. Ten pounds of Western Blue-stem grass was planted where water from the overflow pipe on the water reservoir spreads out over the hilltop, and on slopes back of the house. This is necessary to attempt minimizing of run-off from the bare earth hills in time of rain. Much of this planting remains to be done. It is done

by the ranger and the custodian in what we have heard referred to as our "spare time."

We had numerous noteworthy visitors during the month. Deric Nusbaum, the travelling ranger and his uncle Mr. O'Bryen dropped in during the month. We showed them a little of the finest Monument in existence. Mr. Vincent Vandiver paid us two visits, being accompanied on his last visit by Dr. Charles Gould, Regional Geologist. Ranger Wood and family, of Mesa Verde, paid us a short visit. Mr. and Mrs. Jim Hamilton stopped in for a few hours. Mr. Ansel Hall passed through on his way to Fort Defiance, paying us a brief visit. Mr. Phillip Johnston and party paid us a two-day visit, and we managed to get them within the canyons in the government pickup as far as Spider Rock. Numerous Navajo Service officials and members of a congressional committee spent part of a day and one night here.

During the month an electrolux (gas) refrigerator was received. This was installed by the custodian, in spite of which it works perfectly. A flamo gas stove also was installed, with the same results. Minor repairs to plumbing in the new residence were made, the results also being encouraging.

In time of rain - even heavy dew - the ranger and this custodian indulge in a well-known political sport - throwing mud. The house is plastered with mud on the outside, and whenever there is a slight amount of humidity in the air this begins to soften and run down the building. We mix buckets of mud, stand at a safe distance, and throw the mud back on the walls, to replaster them. Light dews don't bother us very much, but one one-hundredth of an inch of rain drives us frantic. This, we admit, is bad enough. But we have an even greater worry - English Sparrows are destroying the walls. Straw was mixed with the adobes to hold them together, and chaff was mixed with the mud plaster for the same purpose. Imagine our embarrassment upon beholding huge flocks of sparrows clinging to the walls and digging out the chaff and straw! Damage by now is extensive, and the walls are rapidly being pecked away. There oughta be a law.

CHIRICAHUA

By Frank L. Fish, Custodian

The weather has been dry for the month, a few showers but not enough at any one time to do much good.

Roads and trails have been kept in wonderful condition for traveling and hiking considering the dry period. The only actual handicap is the dust, but with the usual rainy season past due this condition should be eliminated before long.

Visitors for the period June 22 to July 22 numbered 1,017 registered

CHIRICAHUA (CONT.)

or checked. Of these 230 or 22,5% were from 24 states other than Arizona. There were other visitors, number unknown, that either stopped below the checking station and walked up the Rhyolite Trail or came in by the telephone line road, better known as White Tail Canyon.

We had some scientific guests capable and willing to aid in disbursing reliable information in Mr. and Mrs. S. F. Wood, U.C.L.A., Los Angeles, California, looking for the Cone Nose Bug, *Triatama Protracta* or *Triatama Uhleri*, carrier of the disease American Human Trypanosomiasis. They state this bug lives around pack rat nests and they suspect the germ is in Mexico although the nearest case has been reported from Panama. While they were not allowed to tear up any rat nests in the monument due to Park Service regulations, they used the camp ground as a base and hunted with success for the bug in Pinery Canyon to the south and east. Mr. and Mrs. Wood promise us a copy of the report when completed.

Darwin Tiemann accompanied Mr. and Mrs. Wood adding to a collection of beetles.

Cooperative visitors were:

Mr. and Mrs. H. Dakensten. Mr. Dakensten is the resident engineer for the maintenance of the new State Highway 181 from Pearce to the Monument.

D. B. Treat, member of the State Safety Council.

C. E. Waterhouse, photographer, El Paso, Texas; he believes more people from El Paso should see the Wonderland of Rocks and intends doing something about it.

Official Vistiors:

J. H. Tovrea, Coolidge, Arizona, Clinton Rose, J. B. Hamilton, and Bob Rose with Marie and Helen.

One of the outstanding visitors happened to be a local lady from Douglas that insisted (without too great an effort) we should have some cake. I might add Mrs. Thos. Stafford of Pearce fries mighty good chicken. Thus I agree with Bob Rose that at Chiricahua you really have a chance to get acquainted with your visitors.

Jesus B. Charles, CCC enrollee from the local camp, climbing off the trails, found himself in one of those common events of not being able to descend alone. His repeated cries for help finally brought aid. Fortunately he was not injured outside of being a bit scared and dry; it is hoped "Old Man Experience" taught a good lesson. I know from a few caustic remarks made by the boys helping in the rescue that the "Old Man" had a few verbal assistants.

CHIRICAHUA (CONT.)

A diamond rattlesnake was captured on the 23rd and will be sent to Dr. Frank M. Blanchard, Department of Zoology, University of Michigan, for classification. The above capture leads me to believe Charlie Steen is Psychic Unasked he sends a snake box with Tovrea one day and the snake comes by the next.

The death of Frank Hand, Pinery Canyon, reported last month by Louis Caywood, forces one to the obvious conclusion that Chiricahua needs a museum building badly; also Ed Riggs of the Faraway Ranch informs me there is a great quantity of material dealing with this region available from local residents if they had the assurance it would be in a safe place.

I have found a fine fellowship and a spirit of cooperation shown by the permanent people working at the monument; also, the neighboring people I have met.

Orvel Ollinger and Bronson Harris, CCC enrollees helping with the visitors, deserve high praise for working long hours without any complaint.

CHIRICAHUA ECW By Wm. Stevenson, Project Superintendent

During the month, 2,275 feet of trail have been completed between Echo Point and Massai Canyon. Massai Point-Balanced Rock trail has advanced 700 feet, which leaves only one half mile to construct to complete the Echo Canyon-Massai Point loop.

The Headquarters-Portal telephone line will be complete by August 1.

The Utility Area Wall is 100% complete.

The grading for the Headquarters Ranger Station is completed and foundations will be poured by August 1.

Maintenance of Bonita highway has continued throughout the month.

Finishing of Service Road and Utility Area grading was postponed this month to expedite the grading for the Headquarters Ranger Station.

Visitors for the month of July:

July 9-10 Assistant Engineer Tovrea

July 16-17 Assistant Engineer Tovrea, and Landscape Architect Clinton Rose.

July 21-22 Jim Hamilton, District Engineer

July 23-24 Chuck Richey, District Landscape Architect

WUPATKI

By James W. Brewer, Ranger

500 USE OF MONUMENT FACILITIES BY THE PUBLIC

169 guests registered at Wupatki Pueblo; 209 at the Citadel Group; 57 names are duplicated, leaving a total of 321 registered visitors to this Monument in July, 1936; 1935, 268; 1934, 90.

31 states were represented as follows: California 68; Arizona, 62; Texas, 17; Iowa, 12; Ohio, 11; Michigan and Missouri, 10; Illinois, 9; New York and Pennsylvania, 7; Nebraska and Oklahoma, 6; Massachusetts, Nevada, Virginia, and Utah, 5; Washington, Oregon, Maryland, and Louisiana, 4; New Jersey, Kansas, Indiana, Alabama, and New Mexico, 3; Minnesota, North Dakota, and Colorado, 2; South Carolina, Maine, Vermont, 1. From Washington, D. C., 1; from Panama, 2.

One party of overnight campers found the Exhibition ramadas an excellent campsite.

530 NEWSWORTHY VISITORS

Mr. and Mrs. Phillip Johnston and Mr. and Mrs. Ross Montgomery on the third.

Junior Park Naturalist and Mrs. Harry Getty with ranger and Mrs. Ray King, all of Grand Canyon, on the 9th.

Mr. and Mrs. H. T. Anderson, U.S.N.P.S., visited the Citadel only.

100 ADMINISTRATION

123 Visits by NPS Officials

Mr. V. W. Vandiver and Dr. Chas. A. Gould on the 17th.

Junior Park Naturalist D. S. King and Mr. Ned Burns on the 20th.

020 WEATHER

June 23 to July 1: high, 89 degrees on the 29th; low 45 degrees on the 27th and 28th; precipitation, trace on the 26th.

July 1 to July 23: high, 98 on the 18th and 19th; low, 54 on the 14th; precipitation, very light rain on the 8th and 10th.

Total precipitation, .02 inches.

3732.3 miles of wind registered on the anemometer from July 4 to 23.

364.3 was the largest wind mileage in 24 hours, carrying a dust

storm, on the 15th.

300 ACTIVITIES OF OTHER AGENCIES IN MONUMENTS

320 Cooperating Government Agencies

Through the effort of Dr. H. S. Colton an anemometer has been loaned to Wupatki by the U. S. Weather Bureau. The instrument is without the m.p.h. electrical recording device, but the number of miles of wind passing the Monument are registered on the dial and are recorded daily.

Non-government agencies

A tourist from Kansas bogged down in the cinders 5 miles above the Pueblo on the Sunset Crater road. I was unable to move the car with the pickup and recruited help from the County Highway Commissioner who sent out two men and a FWD dump truck; after towing the tourist car out, we surfaced that short section of the road with 6 hards of red sand.

430 ARCHEOLOGY

Room 7 is badly in need of a trowelist. Please send us a ranger qualified to remove the many restorable sherds. (Reprinted from Monthly Report of April)

GENERAL

The expected July rains have not yet arrived and the range is in miserable shape. The brush, normally green at this time, is burned brown. The only vegetation I have seen bloom and seed is the Apache Plume.

The cowhide binders on the ladders are being eaten by rodents. This is the first attack on them since their installation in April, 1934, and I believe it is because of the scarcity of the natural food supply.

900 MISCELLANEOUS

At the head of the Citadel register sheet a visitor commented "Very interesting ruins"; following registrants took up the idea and there appear some interesting hints as to what most impresses the unguided Citadel visitors. Quotes give the general range: "I wrecked a tire"; "Swell, with a better road"; "Worth the effort"; "We need a ranger"; "Wish I knew more of their history"; "Where was the water"; "Thanks to the U. S. Government for their preservation of things of such historic value". One asked, "Did you think it was safer to wire the pencil?" Another answered him "Yes!"

SUNSET CRATER

By James W. Brewer, In Charge

500 USE OF MONUMENT FACILITIES BY PUBLIC

1,177 visitors registered at this Monument in the month of July, 1936; 1933, 909; 1934, no record.

Campers: By the number of Tomato and orange juice cans strewn about the Monument, I estimate that approximately 35 parties must have stayed overnight and had breakfast on the Monument. The empty sardine cans indicate that at least 60 parties picnicked in the neighborhood of the Ice Caves.

States were represented as follows (43 different states): Arizona, 492; California, 200; Texas, 91; Ohio, 47; Oklahoma, 46; New York, 38; Illinois, 33; Missouri, 18; Michigan, 17; Kansas, 15; New Mexico, 15; Pennsylvania, 15; Georgia, 11; Massachusetts and Wyoming, 10 each; Wisconsin, 8; Indiana, Colorado, South Dakota, 7; New Jersey, Iowa, Florida, 6 each; North Carolina, Washington, Nevada, 5 each; Nebraska, Oregon, Maryland, Arkansas, Minnesota, West Virginia, Kentucky, Tennessee, South Carolina, 4 each; Idaho, Mississippi, Utah, 2 each; Maine, Montana, Virginia, Louisiana, Connecticut, 1 each. Washington, D. C., sent 5 visitors; France, 2; Austria, Canada, and Mexico, 1.

430 ARCHAEOLOGY PREHISTORY HISTORY

An excellent paper entitled "Dating the Eruption of Sunset Crater, Arizona" appears in American Antiquity, July, 1936. In conclusion the author, Mr. J. C. McGregor, Curator of Dendrochronology, Museum of Northern Arizona, writes "---This would imply that the eruption took place some time very near 885 A.D., but might conceivably have been as early as 860 A.D. or as late as 910 A.D."

CORRECTION OF JUNE REPORT TRAVEL FIGURES

In collecting the June sheets and installing new sheets at the Sunset registration stand last month I must have pulled a boner and replaced some of the June sheets, because this month I find sheets which show that 137 visitors in June were not included in the report. So that the correct total for June, 1936, is 596 visitors.

CHACO CANYON

By Thomas C. Miller, Custodian

GENERAL

July has been a busy month here in the Chaco. Our approach roads have

CHACO CANYON (CONT.)

been getting some much needed maintenance. The road to the North was bladed by the State Highway Department, and the road to the South has been maintained by the Indian Service. We have had enough rain to keep the blow sand from getting too dry on the North approach road, so consequently we have had very few calls to help visitors through the sand during the month.

TRAVEL

929 people entered the Monument in 265 automobiles, coming from 28 states, the District of Columbia, Territory of Hawaii and Germany. Museum and guide service was rendered to 572 people in 136 parties.

WEATHER

Maximum temperature for the month was 98 on the 18th and 19th. Minimum was 46 on the 13th. 1.16 inches of precipitation were recorded for the month. The greatest in 24 hours was .47 inch on the 19th.

MAINTENANCE

The North approach to the Chaco Canyon Bridge made its annual Collapse on the 17th. However, at no time was it impassable. It collapsed early in the morning and old timbers were used to cross the cars on until it could be timbered underneath. Two dump trucks were used in hauling rock to rebuild the approach. At this time the bridge looks safe enough to the average layman, but it is a very temporary fill and we are looking for it to fall the next rain we get. Boss, we are anxiously waiting for some engineering so that we can build a bridge across that wash.

DAYS OFF

At 7:30 a.m. July 2 one of my Navajo neighbors, by the name of Willie George, called on me and informed me that his 12-year old son had died just at daybreak that morning. The Navajo was badly broken up over the death of his son, and he asked me to go to his Hogan and take the body to Crownpoint for burial. I telephoned to the Eastern Navajo Agency and was told, by the officer in charge, that he could not help me in any way because he had no appropriation for that purpose. Realizing that if one Government department could not bury the dead of a good Navajo family, it was a sure thing that the National Park Service could not. I decided immediately that I must take a day off, so I took my personal car, drove to the University building in this Monument and asked Mr. Stanley J. Milford to come along and help me bury the child. Mr. Milford very gladly consented to go. We headed northeast over a very rough road, in all we drove 128 miles, paid a man \$5.00 to make the box and dig the grave. The boy was burried at the Crownpoint cemetary and we got back that night in time for supper.

Boss, when we drove up to that Hogan we found the little boy wrapped in

CHACO CANYON (CONT.)

a wollen blanket, head east and his face turned to the north. Outside and to the west a beautiful black horse was tied to the hogan. Of course, I knew why the horse was tied there, and I thought that I could talk them out of killing that fine animal, but all that I got was a shake of the head. Before we were out of sight a gun was fired, the beautiful horse toppled over; in less than ten minutes the hogan was in flames.

The next day after the funeral Mr. Milford brought me \$2.00 that the students made up to help reimburse me for the money I paid to bury the boy. Mr. Lewis T. McKinney, Project Manager, SCS, also gave me a dollar. I want to publicly thank each and every one that helped me bury this little Navajo.

NATIONAL PARK SERVICE OFFICERS

A. E. Borell and Dr. McDougall, of the Wildlife Division, arrived and departed June 28. Dr. Chas. M. Gould, Regional Geologist, Oklahoma City, and Vincent W. Vandiver, Associate Geologist, Santa Fe, arrived and departed July 8.

SPECIAL VISITORS

Dr. Theodore Schreiber, Alma College, Alma, Michigan, was here June 30. Mr. and Mrs. Harold C. Newton and party of 15 students, from the Navajo Mission School, Farmington, New Mexico, were here on the 4th. Mr. and Mrs. W. L. Marr, Western representatives American Automobile Association, Salt Lake City, Utah, were interested visitors July 5. Mr. A. H. Marquess, Gun City, Kansas, and Dean Babcock of the Denver Museum arrived on the 11th and departed on the 13th. Dr. and Mrs. Feemster, Harvard University, visited the ruins and took motion pictures on the 16th. Dr. Getrud Hermes, Hamburg, Germany, Dr. Hans Rupp, and Dr. Anton Chown, of Harvard University, were Monument visitors on the 18th. Dr. George F. Sternberg, of the Kansas State College, Dr. C. L. Gazin, Washington, D. C., and Harold Sheperd, Hays, Kansas, were here on the 18th. Mrs. Nace deLaguna, Ph D of Bryn Maur College, arrived on the 18th to spend several days studying the ruins of the Chaco.

SOIL CONSERVATION SERVICE

This Service has proceeded in a satisfactory manner. The most part of the month was spent on the much needed revetment work east of Del Arroyo. A diversion dyke was constructed east of the ruins of Wijiji. This dam should serve to keep the water out of the Plaza in that Pueblo.

TUMACACORI

By Louis R. Caywood, Custodian

During the month 755 guests were conducted through the Mission and grounds while an additional 63 used only the facilities offered making a

TUMACACORI (CONT.)

grand total of 818.

The Reverend Victor Stoner, Tucson, again paid us a visit on July 7 and left us with considerable information concerning both Tumacacori and San Xavier Missions. Fred Winn, Supervisor for the Coronado National Forest, spent a short time looking over our improvements the following day.

On July 11 we were very pleased to welcome Ansel Hall, Chief of the Field Division of Education, Berkley, accompanied by J. H. Tovrea, Bob Rose and Dale King of headquarters, to our Monument. This visit concerned the possible construction of a museum and administration unit here. Must say that I am very much pleased with the plans they brought along with them. We enjoyed their visit and hope they will honor us again in the near future.

On July 17 I received a surprise party in the shape of Ned J. Burns, Acting Chief of the Museum Division, National Park Service, Washington, D. C., Louis Schellbach, Jr. Park Naturalist at the Grand Canyon, and Bob Rose and Charlie Steen of the headquarters staff.

This was the first visit paid Tumacacori by Hall, Burns, and Schellbach and they all expressed the opinion that we had an ideal set-up here and wished us luck in obtaining the proposed museum and administration unit.

On July 22 Mr. and Mrs. Charles Bordt and party of Balboa, Canal Zone, were interested visitors at the Mission. Mr. Bordt is connected with the Government service in the Canal Zone.

The tide has turned and the water table is beginning to rise from the number of good rains that have fallen in the last two weeks. The well seems to be in normal condition at this writing. I took advantage of the time that the water was very low and cleaned it out so besides having lots of water we also have a clean well.

Mr. and Mrs. M. O. Evenstad and daughter have gone to greener pastures. Martin transferred to Muir Woods National Monument, California, where the big trees grow. We were very sorry to see him go, but wish he and his family the best of luck in their new home.

In the meantime Mr. Greg Brett has been filling in with the work and visitors at the Monument. Weeds grow faster here than at any other monument in the Southwest including Aztec Ruins and it takes considerable of Greg's and my time to keep them down. Now I suppose Cal Miller will write in to say that he has a bigger weed crop at Chaco than I have. Can't he be satisfied with always saying he has the biggest ruins.

The growing need of a well organized museum at Tumacacori is becoming more evident as each day passes. With a patio arranged building and a picture window showing the mission in its delightful setting, the popularity

TUMACACORI (CONT.)

and educational value of the Mission itself will certainly be enhanced. Here's to the time, in the near future we hope, when these plans will become a reality.

Mail time is upon me so adios until next time.

EL MORRO

By E. Z. Vogt, Jr., Acting Ranger

July has been an eventful and very interesting month for this ranger in many ways.

WEATHER AND ROADS

The drought was broken on the 10th of the month by two cloudbursts and again on the 21st by a nice shower. From now on this is likely to be a wet muddy country.

The roads are still passable, but visitors complain terribly about the Grants road. The natural tendency seems to be to jump on the ranger about the condition of such an awful road. But I just smile pleasantly, refer them to the state highway commission, begin the talk fast and furiously, and finally manage to get them in a good humor so they can enjoy the monument.

TRAVEL

I am proud to report that 415 persons visited El Morro during July. This is not so bad for an almost inaccessible national monument. They came from New Mexico, Arizona, Colorado, California, Illinois, Kansas, Texas, Missouri, Pennsylvania, Iowa, Nebraska, New York, Massachusetts, Minnesota, Michigan, Ohio, Connecticut, Oklahoma, Utah, Indiana, New Jersey, West Virginia, South Dakota, Kentucky, Scotland, and South Wales.

Newsworthy visitors include Blanche Pfefferkorn, Radio City, New York City; John Murray, Annar, Scotland, and N. G. Nicholson, Tvelavvi, South Wales, exchange students from Yale; Clyde Kluckhohn, author of the two books, "To the Foot of the Rainbow" and "Beyond the Rainbow," on the Rainbow Bridge country, and now with the Department of Anthropology at Harvard; the Prairie Trek Expedition made up of 19 boys and leaders from Indianapolis; and Vincent W. Vandiver and Dr. Chas. H. Gould, Park Service geologists, who were here on the 20th. Mr. Vandiver and Dr. Gould were the only Park Service men in all month, and I certainly enjoyed their visit and learned much from them about the geology of El Morro and surrounding country.

FLORA AND FAUNA

The pinon crop is coming along fine but the squirrels and jays are

surely after it.

The countryside is taking on a beautiful green tint after the first rains, and the gramma grass is in some places over two inches high.

The eagle story did not by any means end last month. It continued with the following experience: Not two days after Oscar learned to fly and reached a safe position on a high ledge, a wild-looking old Zuni Indian rode in and demanded both the little eagles. He spoke rapidly in bad Spanish and was certainly excited over the prospects of capturing two eagles and taking them back to Zuni to keep in a wicker cage and pull out their feathers each year for ceremonial dance costumes! It took me more than an hour to convince him that the eagles belonged to Uncle Sam, that I was here to see that nobody bothered them, and that he could not have either one of them. I finally made the following agreement with him: I would give him his dinner if he would go back to Zuni and forget the eagles. He grumbled a while, but accepted my offer. An hour later he left in a good humor without the eagles and has not been back since. And now every day I see the eagles soaring overhead free and unmolested.

The bird list for July is as follows:

Cliff Swallow	Pigmy Nut hatch
Northern Violet-green Swallow	Western Meadowlark
Red-shafted Flicker	Western Mockingbird
House Finch	Desert Sparrow Hawk
Western Mourning Dove	Mountain Bluebird
Western Robin	Chestnut-backed Bluebird
Western Nighthawk	Lewis Woodpecker
Golden Eagle	Canyon Wren
Arkansas Kingbird	Turkey Vulture
Cassin Kingbird	Black-chinned Hummingbird
Woodhouse Jay	Western House Wren

MONUMENT IMPROVEMENTS

Please, Boss, may I make another plea for moving our entrance gate. As travel increases, our system for handling visitors becomes worse and worse. It is my opinion that the entrance should be about 100 yards west of the northeastern corner of the monument fence. The road could then be made to come straight up to the ranger's cabin. Every visitor could be contacted and the rickety old bridge eliminated. If the money to be used in rebuilding the bridge, which is about to fall in, could be applied to the expense of moving the gate, I think we would save money, time, and energy and improve our system of handling visitors a hundred per cent.

I put a heavy coat of Driwall, the colorless preservative, over all important inscriptions before the first rain.

~~SOUTHWESTERN MONUMENTS (CONT.)~~ Improved the appearance of the concrete steps, but they still do not look as well as they ought to. I intend to try another coat next week improved the appearance of the concrete

Say, Boss, can you give me the dope on this new preservative which can be sprayed on the rock to prevent pictographs from washing away? There are a few colored pictographs on the cliff south of the cabin that should be preserved. Mr. Vandiver told me about this preservative the other day.

I am working with two men and a team on the north trail which washed so badly in the last rain. We are increasing the capacity of the drainage ditches, putting crushed rock in holes, and regravelling parts of the trail. The trail will now be better able to carry the run-off from heavy rains, but I doubt if the present trail can ever be made to stand up for any length of time.

With a few shelves, pieces of pottery, axe heads, curious rocks, manos and metates, a piece of old hammered iron which might be part of a Spanish bit, the corner of the office in the ranger's cabin is being converted into a small museum. It isn't much, but almost everything has an humble beginning, and now is the time to start.

You will be interested to know that the fellow from St. Johns, Arizona, who carved his name in a cave on the south side of the monument, returned on the 13th and did a first-rate job of removing his name from the Rock. There were no hard feelings, he learned a lesson, and best of all he had the pleasure of seeing the monument twice.

MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

On consulting our register for the month of July this is what I find that we have had: Visitors for the month numbered 1,482 and came from 32 states and the District of Columbia, three foreign countries: Belgium, Canada, and South Africa, and Territory of Hawaii. From the above figures you will find that we are averaging about fifty people per day. This is by no means a big run of visitors for this place, but with a nasty detour on State Highway 79 which is the main artery into the valley and the monument, and with the hottest weather I have ever experienced in the valley since coming into this state in 1912, I feel that we are not doing so badly.

Among the Park Service visitors for the month, Ansel Hall and Dale King were in for a short visit. This is Mr. Hall's first visit to this monument and we are very glad to have had him. I feel sure he will have a better understanding of our local problems. Dale, having been in a number of times, no doubt has heard plenty concerning the local needs of

this monument. Geologist Vandiver was in for a couple of hours, seemed to enjoy our monument, and promised to come back in the not too distant future to give us the low-down on the geology of the Verde Valley. We expect him to hold his promise. Louie Shellbach and Mr. Burns of the educational department paid us too short a visit last Sunday. Several of the boys from the Grand Canyon were in during the month.

Ranger Frank Fish was transferred to the Chiricahua National Monument the first of the month. Needless to say that we will miss Frank and Corabeth and the two little fish(es). However we do think he will like it better there and we will gamble anything at our command that he makes good in his new position. More power to you, Frank.

I would like to give you an insight on some of the joys of living on a National Monument way out in the hills of Arizona. On this monument we have to pump water out of a drilled well with a gasoline motor. We have a thousand gallon supply tank and at this season a full tank of water will usually take care of the demands of the monument for twenty-four hours. Ordinarily we start the motor in the early morning and will have enough water to do for the day. During the past month I got ambitious for once in my life and decided that I would start the pump in the evening and would not have to bother with it the next morning. And this is how it worked out:

Friend wife got out of bed at the usual hour, walked into the bathroom and cheerfully informed me that the water was out. I proceeded to don a bathrobe and a pair of house shoes and a ttempt to find what had happened to the full tank of water that we had the night before. The valves in the lavatories in the rest room have a habit of not closing and sometimes drain the water all out of the tank supply. I went hurrying into the rest room to find out if any of the valves had stuck. On entering the room I heard that old familiar hissing sound which was good and sufficient reason for my backing out of the room entirely. Mr. Cox, the temporary ranger, was out in the yard in front of the ranger's quarters. I called on him and he armed himself with a good stiff stick and boldly entered the place coming back with a nice specimen of a rattlesnake. He said that he had dispatched the gentleman(supposing it was a gentleman snake being in the gentlemen's rest room). I then decided to go back to the house and have a cup of coffee, to settle the nerves. The wife says that there is not enough water in the house to make coffee. So it was up to me to start the motor before any coffee could be had. I immediately went down to start the motor, on turning it over I found that the motor had blown a cylinderhead gasket. That would have to be replaced before the motor would run, which was a three-hour job. I replaced the gasket and some where around 9:30 we had coffee. (Just another one of those things) But whoever heard of a rattlesnake requiring a rest room!

About this man Cox that is rangers here temporarily. I hear so many good things about him that I believe I am getting downright jealous. It is claimed that he not only makes an interesting talk' but an intelligent talk',

which is very likely the only one's that have been made on this monument. It seems that he has the visitors confidence. On the 4th he asked a lady why she was climbing the ladders so slowly, as the ladders were very hot at that time of the day. Her reply was, "You do not know my secret, if I fall I kill two."

Will bring this report to a close as I have just had quite a round with a lady from Los Angeles, who evidently drove over here to tell me how hot it is in Arizona. And how cool it is in Los Angeles; I told her about spending a part of one night in the angel city, but left before morning because of the heat.

PIPE SPRING

By Leonard Heaton, Acting Custodian

There has not been a great deal doing up here during the past month to report on except the travel, which has been slow at times. There have been some changes made in the figures as follows:

June guided trips	28	Present	84	Local	362	estimated
July " "	18	" "	96	" "	310	" "
Decrease trips of	10	Increase	12	" "	52	" "

Total travel including visitors and local travel, 406. The local number was brought up on the 4th when the people of Pipe Valley, 71 in number, came in to spend the day. My increase in the guided trips attendance is that I had one party of 22 and one of 13, 12, and 14 each. I also have had the following Park Service officials:

July 15 Mr. Chas. N. Gould of Oklahoma City and Mr. V. W. Vandiver, of Santa Fe. These two gentlemen came in early in the morning, stayed for 30 minutes or so and then went on into Zion over the old desert road, as they wanted to study the red mountains between Pipe Spring and Zion.

Mr. Al Kuehl came in about noon and we spent about two hours going over the work that had been done by the eight CCC boys, and found that there were some of the work jobs that needed changing. This we are doing this week.

On the 16th Messrs. Gragerer, Mansfield and Hinds of the Geological Survey were here for two or three hours looking over the rocks and the fault that supplies us with water.

July 21 Mr. and Mrs. L. W. Childs of the Washington office called in for a few minutes. Mr. Childs is connected with the ECW part of the Park Service and he is out seeing the ECW superintendents on some of the parks and monuments.

I surely enjoy having the officials come in and see me once in a

PIPE SPRING (CONT.)

while as it gives me new life and makes me take stock of myself. Upon their departure I usually find something that can be improved, even though they do not say anything about how the monument looks or how it should be run; but just the presence of the officials and knowing that you are under inspection to some degree makes one look for his weak spots and he is determined to strengthen them before another visit is had by that official.

My week in camp with the scouts was a wet one as we were rained out two days before the camp was to close; nevertheless, we enjoyed it very much. Mr. Brown who took care of the monument while I was away did a good job and everything was in good shape when I returned.

The Nature notes for July are: I have banded 5 Arizona Crested Flycatchers, 4 young and the mother of the 4. They were from the nest in the register room of the Fort. I also banded one House Finch. I am finding bird nests almost every day. Some have eggs and some young birds in them; some are empty. The following birds I know have nested on the monument: Arizona Crested Flycatcher, House Finch, Robin, Mourning Dove, Bullock Oriole, Meadow Lark, Cassin Kingbird; there were also some sparrows that I have not identified.

Lizards are plentiful but I have not been able to devise a trap that will catch any yet. I am still working on the scheme however.

A few rattlers are being found on the monument by the CCC boys, which they kill on sight.

Most of the plant life has flowered and gone to seed because of the long dry spell. The only life that shows green is the trees and brush and a few of the deep rooted plants. Even the thistles that are not near the irrigation ditches are burnt up.

July 19 gave us the first rain that amounted to any good. It rained for about 30 minutes, causing the water to flow in most of the clay washes. We were again greeted by a rain on the 20th. I guess the Rain Gods are taking pity on the desert again. I have heard reports to the effect that in the country north and west of here roads and bridges have been washed out and a lot of damage has been done to the fields. If these rains continue we ought to have some fine fall flowers and pleasant weather.

NAVAJO

By Milton Weatherill, Ranger-Historian

Visitors for July, 1933, total 133; 1935, 86; 1934, 69.

The weather has been hot for this part of the canyon, with very little rain. Thick Singer has moved his sheep out on the mesa, as there is better feed up there, with some chance for water since the rains have started.

Mr. George Harriman, Mr. J. Roach, and daughters, were in; they had lunch and spent a very pleasant time in the ruins. The oldest girl said that the ruins did not seem real as the buildings looked so small.

June 27, 14 of the boys from the Rainbow Bridge-Monument Valley Expedition, Tsegie camp, spent part of the day looking around the ruins, and at one or two others ruins. Charles Amsden was head of the party.

July 1, Mr. Charles Bernheimer paid a short visit to Be-ta-ta-kin.

July 3, took Messrs. Charles Bernheimer, Charles Amsden, Dr. Bubbington, Phil Johnson and party to Keet Zeel.

July 4, Mr. and Mrs. Ricketson of Guatemala, C.A., made a trip up from Kayenta.

July 10, the Torbert Expedition, 16 boys and their leader. They are from preparatory schools in New York.

July 11, ten of the Flagstaff State Teachers summer school archeological class paid us a visit.

July 13, Dr. Chas. N. Gould, geologist, National Park Service, Oklahoma City, and Vincent W. Vandiver, associate geologist, National Park service, Santa Fe, New Mexico.

July 15, went down to Tsegie camp where I met Dr. Frederic P. Loomis of Amherst, Mass., Dr. E. B. Howard, Dr. Ernest Antvs. I took Dr. F. P. Loomis and geological party, as well as Dr. E. B. Howard, down to Wildcat Canyon to a bone bed which comes in the top of the Chin Lee formation. One very nice skull was located and another which was not so good. As Dr. F. P. Loomis was going on out to Marsh Pass, I returned with Dr. E. B. Howard to Tsegie Camp where we joined Dr. E. Antevs. From there we made the trip to Be-ta-ta-kin.

Birds for July:

Mountain Bluebird	Lead-colored Bush-tit
Mountain Chickadee	Western Mourning Dove
Red-shafted Flicker	Ash-throated Flycatcher
Western Gnatcatcher	Sharp-shinned Hawk
Western Red-tail Hawk	Desert Sparrow Hawk
Coopers Hawk	Broad-tailed Hummingbird
Long-crested Jay	Woodhouse Jay
Pinyon Jay	Nighthawk
Rocky Mountain Nuthatch	American Long-eared Owl
Flammulated Screech Owl (one has taken up his evening hunting in the ruins)	Western Hored Owl
	Say Phoebe
	White-crowned Sparrow

Bird for July (Continued)

Poor-will	American Raven
Western Robin	Northern Violet-Green Swallow
White-throated Swift	Western Chipping Sparrow
Spurred Towhee	Gray Titmouse
Western House Wren	Canyon Wren
Rock Wren	White-breasted Woodpecker
Turkey Vulture	Western Mockingbird

BANDELLER

By. J. W. Hendron, Acting Custodian

Visitors:

Visitors numbered 2,162,, arriving in 431 cars from 34 states, and the District of Columbia.

The six highest states in order by visitor count were: New Mexico, 548; Texas, 200; Oklahoma, 164; New York, 91; Kansas, 88; and Colorado, 84.

Attendance increased 352 over last month, or 19%, and increased 70 over the July, 1935, total, or 7.7%.

Although not represented by cars, a total of 9 people from foreign countries visited the canyon this month; they were from England, Holland, and France.

Return visitors fall short of last month, numbering 123, and I am inclined to believe that we missed some of them.

Weather and Roads:

Days partly cloudy:	25	
Days cloudy:	0	
Maximum temperature:	90	July 6.
Minimum temperature:	51	July 12.
Mean Maximum-----	79	
Mean Minimum-----	58	
Precipitation-----	3.44	against .81 for July, 1935.
Rain and sleet-----		June 27, 29 and 30, July 1, 2, 6, 7, 8, 9, 10, 11, 15, 16, 21.
Dust storms-----		None.

The weather has been good and the rains have been most welcome, the heaviest precipitation being on July 10, with a total of 1.50 inches, beginning about 4:45 p.m. and ending some time during the night.

BANDELIER (CONT.)

The roads have been slightly rough since the rains started, but I think the canyon folks would like the roads a little rougher and a little more rain. The dust has settled considerably since these showers and we are looking forward to more of them.

Visitor Trip Chart:

Two-hundred and twenty-one parties took guided trips through the ruins, or were given short individual lectures, numbering 1,258 people. The average time per party was 69 minutes. One hundred and eighty-nine parties took complete ruins trips; twenty-six were given short talks or special lectures.

A short time ago one of the Couriers with a Harvey party suggested a bench for visitors to sit on in one of the shady spots under the cliffs. I found that this increases the interest of visitors since a log was dragged up to the spot for them to sit on and rest after quite a pull from the canyon floor up to the caves. Of course when people sit down and collect their thoughts they ask many more questions and this gives us a chance to really unfold, thereby increasing the time of each party but in the long run I can't see why this arrangement isn't more satisfactory since the personnel at Bandelier is large enough to handle most of the people we come in contact with.

I wish to praise the fine work that is being done by the CCC enrollees acting as guides. In the short time I have been here I have never heard a one of them complain about anything they were asked to do. They always seem willing and are especially polite and well mannered when in the presence of visitors. I have had some very favorable reports on them from visitors who are appreciative and have been well pleased with their trips. I am inclined to think that these boys are three of the finest we have in the camp. They are all taking correspondence work through the Educational Advisor trying to finish their high school work, and since they are so interested in archeology we are going to have a class, meeting two nights out of each week. This will enable them to get further with their high school credits and will also broaden their knowledge of archeology and anthropology; thus, giving a much better lecture on the story of Bandelier National Monument to the visitors they come in contact with.

Special Visitors:

June 27 - Chuck Richey was in for a few hours on business with Thomas C. Vint, Chief Architect, Branch of Plans and Design in Washington, and also, Merle Sager, Associate Landscape Architect from the Regional Office in Oklahoma City. A. E. Borell and Dr. W. B. McDougal were in for a short visit, going over some of our wildlife. Dr. McDougal is with the Wildlife Division in Oklahoma City.

BANDELIER (CONT.)

July 4 - Dale King and Ansel were in going over the plans for the museum and giving things the once over. They left in a hurry but returned on July 6 with Chuck Richey so it looks like the museum will be under way in a short time.

July 7 - Dr. Chas. N. Gould, Geologist out of the Regional Office in Oklahoma City, was in with Vincent Vandiver, Associate Regional Geologist from the Santa Fe office. We took a trip through the ruins going over a little archeology and geology, and finally ended up down at the upper falls amidst all of Nature's wonderful workings in volcanic material.

July 8 - Dr. Frederica de Laguna, from the University of Pennsylvania Museum, was in with her Mother for a visit. Dr. Laguna has been with the Soil Conservation Service for the past six months in southern Arizona, and at the present time is making a tour of Southwestern Monuments.

July 14 - Hugh M. Miller arrived for a few hours on business.

July 17 - Dr. C. P. Russell, Chief of the Museum Division out of Washington, was in for a short inspection with Floyd Yeager from the Santa Fe office.

July 19 - W. S. Stallings, Laboratory of Anthropology in Santa Fe, was in for a short visit to look over the Community House and other things of an archeological nature.

July 21 - Lyle Bennett and J. E. Bell from the Santa Fe office spent a few hours on an inspection tour.

General:

It looks like things are really being rounded out at Bandelier. The Museum Building is nearing completion and the new living quarters are going up fast, and I can truthfully say that they are not to be sneezed at. I'm anxious to move into one of the new houses for I have a lot of studying I would like to do this winter, that is if I am here long enough.

George Sholly came on duty July 1 as maintenance man for Bandelier and has recently been trying to put these roads in shape since the hard rains. George has been in this part of the world for the last three years and worked for Mr. Chase, Project Superintendent, until last spring. He knows the country around here and I think that he will be a great help to this office in many ways in addition to his maintenance work.

I heard from Earl Jackson the other day and he seems to be getting better all the time and gaining energy, so from all indications he should be ready to go back in the Service in a short time.

I could think of many things I would like to put in this report but I shall save the most of them until next month.

The completion of the flagstone floor in the Museum Building completed this building ready for construction of museum cases under the furniture project. The rough interior walls in this building were left unplastered, awaiting detailed plans for the museum cases, as it is contemplated considerable firing and plastering will be necessary to complete the case installation.

Construction crews have finished Quarters No. 2, and the building is now turned over to the painting and carpenter crews. All doors have been constructed and are ready for hanging, and a portion of the windows are now in place. The painting crew has started clean-up, and will start wall and trim painting immediately. After painting and inside cabinet work is finished, this building will be ready for occupancy, probably August 15.

Construction of the residence area equipment shed and dormitory quarters was started under the direction of Foreman Eden about June 25. To date, all window and door openings are in place, and wall construction to lintel height. This building consists of a four stall garage for the four quarters shown on the Master Plan which do not have adjacent garages, and an additional two rooms with connecting bath.

The refuse burner, constructed on the North Mesa, near the rim of the Canyon, was completed this month and is ready for operation. The structure was built in accordance with approved plan BAN-9003, and will undoubtedly be of considerable aid in disposition of camp ground refuse and other wastes at the time the camp is removed from this area. At the present time all refuse goes to a much larger plant initiated by the Army.

Considerable spraying and insect control work has been carried on in the Canyon under the direction of Forestry Foreman Fulton, in an effort to control the Tent Caterpillar which has come in evidence along the Rito de los Frijoles.

The usual summer rains initiated considerable work under our project, Excavation Channels and Ditches, as justified in our application for this project. The location of a number of our newly constructed buildings created a distinct flood hazard, and recent rains proved this by flooding our new museum and quarters No. 2 buildings. Diversion channels and ditches have been constructed around these two buildings, together with other grading which will eliminate the flood hazard.

The rock quarry crew has been in progress these past two months, busily quarrying and shaping rocks for our various building projects under construction.

The informational signs for Sunset Crater National Monument are now complete for shipment; however, we are holding these signs awaiting an

inspection by Architect Richey before shipment is made. The completion of this large order of signs will enable us to start carving a number of small orders for various monuments in the Southwest. We hope to have these additional signs ready for shipment within the next month.

Receipt of approval of our power and telephone cable purchased for our underground systems here has enabled us to continue installation and to date all cable on hand is in place. Entire completion of this project will be made upon delivery here of additional cable necessary, to be ordered for compliance of engineering specifications.

A small amount of landscape work and planting small shrubs and plants, together with considerable water haul to promote the survival of last fall's program has been in progress the last two months by the landscape crew.

TONTO

By Woodrow Spires, Ranger

This closes a dull summer month, with the visitor count being somewhat lower than that of the same period last year. This I believe is due to the Texas Centennial and some unusually warm weather.

The thermometer has been hovering around 100° for the greater part of the month. Precipitation totaled little more than 1.5 inches which fell in the form of two rains and four light showers.

The following travel figures are derived from SWM Stencil No. 16:

Total visitors at the Monument-----	289
Total time guiding -----	4,500 minutes
Total visitors taking field or ruins trip-----	157
Total number of field or ruins trips -----	42
Total time field or ruins trips -----	3,190 minutes
Average time field or ruins trips -----	75 minutes
Average group field or ruins trip -----	3.7
Total visitors museum trips -----	232
Total museum trips -----	62
Total time museum trips -----	1,310 minutes
Average group museum trips -----	3.7
Average time museum trips -----	21 minutes

By comparing this with last month's report, I find that there are fewer visitors but the average stay in the field is increased from 63 minutes to 75 minutes this month. This bears out my theory that the summer visitors are more interested than the winter visitors.

A few newsworthy visitors this month:

July 2. Custodian Frank Fish of Chiricahua National Monument.

TONTO (CONT.)

accompanied by Mrs. Fish and the two minnows, stopped in for a few minutes.

July 11, Ansel F. Hall, of the Berkeley office, accompanied by Dale S. King, of the Coolidge office, stopped to inspect the proposed museum site and visit the lower ruin.

July 19, Robert L. Cole, former ECW clerk for Southwestern Monuments, and brother Clarence R. Cole, student technician at Headquarters, spent the day visiting the ruins and talking over old times.

July 21, Miss Wilma C. Homeyer, ECW clerk in the Personnel Division of the National Park Service, Washington, D. C., was an interested visitor.

The following are notes from the Nature files of the Monument:

Shortly after the first summer rain in early July the ocotillos which have been bare of leaves for two months put forth a new set.

A great portion of the larger mesquites in this section are putting forth a second crop of beans.

Young quail undoubtedly second hatchings are appearing now (July 20).

With this I bring to a close the first year of my employment at Tonto of which I have enjoyed every day.

AZTEC

By Johnwill Faris, Custodian

True, Boss, this is getting to be an old story, but nevertheless July joins with several other months this year in being better than any similar month since 1930. Visitors for the month total 2,089. Aside from the visitor angle this month has been most interesting. The parking area is receiving its topping and it is going to be mighty nice, but you are not going to catch me saying it is the best in the Southwest, after your prophecy of a short time ago. On second thought, however, I do believe that such is the case. Any one that knows A. E. Underhill knows that we are getting a fine job. His personal interest, as well as his professional knowledge, is most appreciated.

July, 1936, will long stand out as a very important month for the Monument; administrators from both Colorado and New Mexico stopped off, several Park Service and ECW men, and individuals from many units in our field. Ansel Hall and Dale King started the ball rolling with some mighty valuable discussions of our museum treatment; they had hardly left us when Dr. Gould and Vandiver dropped in with us. This was the first visit for either of these men and it is very much regretted that neither Mr. Hart nor myself

AZTEC RUINS (CONT.)

were here to go through with them. I had the pleasure of spending several minutes with them in Aztec and again a few minutes at Mesa Verde, and those few minutes were just enough to cause me to sincerely hope that it will be possible for them to make us a return visit. At this point in the game Bert and Mrs. Hart presented the Monument with a big baby boy, Paul, but, Boss, to go on and list all would be taking all the report for names and will just hurriedly mention the names. Mr. Wilson, Assistant Secretary of Agriculture and his party, were in with us for a time, and I want to say that we have never had a more interested party than that from our sister Department; Baker from Denver; Osborn from Flagstaff; Mr. and Mrs. Ricketson; Mr. G. G. Simpson and daughter; Homer Bedford from Colorado capitol; and, Boss, of very much importance to the Monument is the visit of Assistant State Highway Engineer from Santa Fe. It is barely possible that the Governor will consider paving the road from the highway to the Ruins. He has been most gracious in his consideration and I feel that he will be the one that will see to it we have a road leading to our attraction. Governor Tingley never visits this section of the country that he does not drive out and he has consistently evidenced a very sincere interest in the Monument, and the entire county is hoping that his vision will allow him to give us a road out here. It is a matter of only a couple of weeks now until the entire road from the Colorado state line to Shiprock will be oiled, and it is not very attractive to the average visitor to leave an oiled road for our cow trail up to the Monument. Anyway, Boss, we have faith in the Governor and believe he will get us the road.

Well, Boss, I know that this is not much of a report and I have a lot to report, but I am going to send this on with apologies and get out on the job and see how things are shaping up on the outside. I read with a great deal of interest the letter on reports in the Broadcast, and I think there is a lot of food for thought. I might even break loose and write my views for an issue of the Broadcast or at least for my own peace of mind. Am also wanting to look over the list of available books again and get some up here for Bert and myself.

HEADQUARTERS STUFF BRANCH OF EDUCATION

By Charlie R. Steen, Jr. Park Naturalist

The Educational staff of the Southwestern Monuments for July, 1936, consisted of Robert H. Rose, assistant Park Naturalist, Junior Park Naturalists Dale S. King and Charlie R. Steen, and Student Technician Clarence Cole.

Activities of the staff

During the month Rose made the following field trips: (1) to
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BRANCH OF EDUCATION (CONT.)

Chiricahua; (2) Tumacacori; (3) Tumacacori and San Ignacio, Sonora; (4) left on the 19th for Berkeley where he will be stationed for several months.

King made field trips through the northern monuments with Ansel Hall and Ned Burns and at present is at Bandelier National Monument preparing and installing exhibits for the new museum.

Steen was at headquarters for the entire month with the exception of one trip to Tumacacori and San Ignacio.

Report of Student Technician Clarence R. Cole, ECW:

As with last month, about half of my time was spent guiding, while the balance was spent doing mimeograph work in the Naturalists' office. I was guiding daily until Don Erskine returned from his vacation and let me get back to my job of mimeographing.

Two Sundays ago, Bob and I drove up to Coolidge Dam, stopping by Tonto on the way back to visit with Woodrow Spires, who feasted us royally while telling us what a nice ruin he has. I agree with him, Tonto is really beautiful, the flora of the region also being very outstanding.

My working time was spent as follows:

Guide Duty:

Total number Ruins trips ----- 59
Total number Museum trips ----- 52
Total days guiding ----- 14

Office Duty:

Mimeographed 360 copies Annual Report.
Mimeographed 2000 copies Tonto Informational Leaflets (Incomplete)
Helped Charlie Steen install the new bookcases.
Numerous other minor duties.

Gifts and Accessions:

The Carnegie Institution of Washington has donated a group of 23 publications to the Headquarters library. These papers and reports are listed by title in the Supplement to this report; the subject matter covered by them ranges through anthropology, history, botany and zoology.

Twenty-one steel and glass bookcases arrived and were installed during the third week of July. Our library is now adequately housed and protected against casual loss of books by virtue of being under lock and key.

BRANCH OF EDUCATION (CONT.)

Bird Banding:

Banding at headquarters has been at a standstill for some time, due to a lack of bands. A fresh supply has been received, however, and traps are being baited again. Only two monuments reported banding operations for July; these were Walnut Canyon and Pipe Spring.

Walnut Canyon

7 Crossbills
6 Western Chipping Sparrows
2 Western Tanagers
1 Greenbacked Goldfinch
1 Red-shafted Flicker

Pipe Spring

5 Arizona Crested Flycatcher
1 House Finch

As an incentive to those in the field who are banding, two letters received during July are copied here:

"I am in receipt of your report for the Southwestern Monuments for the fiscal year 1936, the detailed report of the Casa Grande National Monument (Louis R. Caywood, Operator), and the report of the Tumacacori National Monument, of which Mr. Louis R. Caywood is custodian.

"These reports have been examined with a great deal of interest, particularly since there are so few banding stations in the southwestern part of the country. Because of this the Biological Survey, naturally looks to the stations established at Southwestern Monuments to produce some information of more than ordinary interest. An example of this is already apparent in the work that has been done with the Gambel Sparrow and we must compliment you upon the very high percentage of return records you have obtained for this species. In connection with this bird it is worth while to comment that a closely related eastern species, the White-throated Sparrow, which has been banded literally by the thousands, yields very few return records, particularly at stations located along the migration route. At a few stations on its wintering grounds some return records have been obtained but one of our stations located a short distance north of Chicago has banded possibly 14,000 White-throated Sparrows and has never yet recaptured one of its own banded birds.

"Please extend to the various assistants who have aided in this work the appreciation of the Biological Survey for their efforts and our hopes that they will continue to enjoy the work and that the stations may be continued in operation and their activities extended."(F.C.Lincoln, USBBS)

"We have received copy of your mimeographed list of bird banding totals for the fiscal year 1936.

"We desire to thank you and express the belief that this record is most impressive. Aside from the direct results to be obtained from this study, the data will be valuable for a list of the birds of the national monuments which is on the agenda of the Wildlife Division for future compilation. If a copy has not been sent to the Wildlife Division, San Francisco, and an extra is available, it would be appreciated if the records of that office could be made more complete.

"During a recent talk with Ansel Hall it was remarked that he has on hand a number of banding traps that he would like to place in use. This is referred to you in the event that you could use more than are already on hand.

Sincerely yours,
VICTOR H. CAHALANE, Acting Chief,
Wildlife Division,"

Visitor Figures:

As nearly as we can check up, we had 30,110 visitors in July at the eighteen monuments reporting. If we could get a check on the others it would not change that total very much.

Eleven thousand and eleven of them went on guided field trips, taking two thousand one hundred field trips, making an average of 5.2 persons per trip. The average field trip lasted 41 minutes, as nearly as we can get the figures.

Six thousand and eight of the visitors attended eleven hundred and twenty-nine museum talks. These museum parties averaged 5.3 persons each and the talks averaged 21.3 minutes each.

Turn these figures over in your mind a moment and you will see that we gave a highly personal service and a lot of it. With less than six persons in your party you can reach the individual and if the party stays forty-one minutes in the field or twenty-one minutes in the museum, you will have time to give that individual some knowledge of your place.

The trouble is that we did not reach a higher number of our visitors. The total travel was 30,110 and we made 17,019 contacts, or 56.5%. The greater part of the answer is, of course, lack of personnel. The remainder of those visitors did not refuse the service, for one reason or another they just never had the chance to get it. And the condition is really worse than the above percentage would indicate, because in those 17,019 contacts there are a lot of double-contacts on the same visitor. He takes a field trip and he goes into a museum and you have a double-contact on the same visitor.

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VISITOR FIGURES (CONT.)

Out of the 30,110 visitors we took 11,011 on guided trips, or 36.5% of the total, and we took 6,008 of them, or a little less than one in five, through museums. A little more than a third of them can have field trips and a little less than a fifth can have museum talks.

We would be foolish, in the face of these figures, to put on an advertising campaign and try to increase the total number of visitors at the monuments in our district. What we need is less visitors or more personnel in order to handle the problems that we now have, and not more visitors with the personnel we now have; that can only mean another flock of problems and a lot of poor service to the visitors.

Comments:

The table says that Paul Beaubien was the busiest man in the southwest last month when it comes to handling visitors. Single handed he met 2,029 of the 2,384 visitors who went to his monument.

Lest you get the idea that he handled these visitors in large groups, thus making it easy for him, I might point out that his average party on guided trips was 4.1 and his average party in the room in his quarters which we call the "museum" was 4.5. If you have been on a lone post yourself you can read between the lines of these figures and see the number of meals Paul missed and the other number where the food was cold because it was too late and would take too much time to cook something. Also you would know something of the number of times he rolled out early to catch the idiot who always starts in the gray dawn in the morning and is quite surprised that your lone man is not on duty at six, a.m. And you would know of the times he talked until eight or nine or ten o'clock with his last parties, many of whom thought they were doing him a favor by staying with him and preventing him from getting so dreadfully lonesome out there in the woods all by himself! His average time was good too; twenty-two minutes on the trail and twenty-eight minutes in the museum. Try to talk straight along about any subject for twenty-eight minutes and make it interesting enough that four or five people will stand and listen to you during that time!

You will understand that the trail and the museum at Walnut Canyon are more than a half mile apart. This means that only rarely can Paul show the ruins and the museum to the same party. When he is out at the point taking care of the trail, the people he shows around the trail cannot get into the museum and vice versa. This means that we could just about double our service at Walnut with a second man for then they could divide the job and the visitor could get full service.

The Montezuma Castle figures look funny. It is hard to believe that more parties and more people climbed those ladders and went into the Castle than walked into the museum.

As might be expected, the fellows in the back country can show the

VISITOR FIGURES (CONT.)

longest visitor stay. People go there on a special trip to see the monument and are willing to stay long enough to learn something about it. Also, the back country monuments have their exhibits pretty well scattered and it takes time to cover the ground to see them. On the other hand, the visitor drops in at Aztec or Tumacacori or Casa Grande on his way somewhere else. The monument isn't the end and aim of his day's trip and he doesn't want to spend too much time there; he wants to be on his way. Also the compactness of these monuments lends itself to a much quicker trip.

CLOSING

It has been another good month among the Southwestern Monuments and we feel like it is a pretty good world after all.

The weather has been favorable for travel over the district in general, as you have seen from the Condensed Report and the Reports from the Men in the Field and the visitors have responded by coming out in larger numbers as you have also observed in the tables.

Business, which has been on the up-swing for many months here in the Southwest, has improved during the month and seems better now than for the past five years. As I write this our rainy season seems pretty well started over the district and it looks like any danger of a bad drought is past. In fact the rainy season in Southern Arizona opened with such a ~~rush~~ that railroads and roads are going to absorb thousands of dollars in repairs due to floods.

The office work came past the end of June, out of the old fiscal year and into the new, with an over-worked office crew but without breaking down. We hope by another month to report office changes which will reduce the overload and give us something like normal working conditions.

Customs:

I think, Chief, that among us here in the Southwest we have some of the most interesting jobs in the United States.

Where else could you drop back half a dozen centuries in this year of our Lord, 1936, and match that episode Carroll Miller reports? The Navajo must destroy the house; must kill the horse; must not touch his dead if it is possible to get a white man to handle the burial, and so on. And you notice how the boys up there took it all in the day's work; you never know in the morning what will break before night. Reminds me of one time several years ago when an old Indian came over to our camp in the Chaco and asked us to take a youngster in to Crownpoint to the hospital. It was a snake bite and they held a sing over the kid two or three days, and then, their faith weakening, turned as a last resort to

CLOSING (CONT.)

the white man's ways of doctoring and we spent a little better than half the night taking the youngster over the worst forty-five miles of road in New Mexico to the Agency. Incidentally, the doctor pulled the youngster through, too. I am also reminded of the time one of the expeditions working up there made the mistake of hauling a corpse out in the light truck they hauled the workmen to work and then had a whale of a time getting the evil spirits out of the truck so the workmen felt safe about using it afterward.

It was just a few years ago that some of our Pima Indian friends put a forty-dollar saddle and bridle and a pair of silver mounted spurs in the grave with a boy who had been to school through the eighth grade and could read and write and speak your English language. The past and the present live pretty close together down in this country.

Visitors:

I would like to call your attention to the visitor tabulations this month; especially that item of 12,406 visitors at White Sands National Monument. And we gave a few minutes of service to twenty-three hundred of them'. Possibly you may reply, "So what?" In other words, you may think they can't carry the White Sands off, the wind will level out their vandalism, and so what do we need any personnel at that Monument for? From the protection standpoint I am free to admit that we do not need men at White Sands very badly, and I am not asking you to let me put the next two or three protection men we can get on our rolls at that place; we need them worse elsewhere. But when it comes to meeting visitors and giving them much wanted and much needed information, we can meet more visitors with less men at White Sands than at any other place in our district, and just as soon as we get these open holes in our protection fight plugged, I want to put some information forces at White Sands. Twelve thousand people in a month would make quite a bulge in some of these park attendance records and might cause a flurry of road and trail construction along with some lookout houses and museums and trailside structures, and would certainly cause a few more 'educational contact' men to be put on the staff, so we think it is worth while to call your attention to these twelve thousand visitors at a monument and point out that two or three Park Service men could be used to good advantage there. The proportion of one ranger per twenty thousand visitors per year would not be considered over-staffing a park, would it?

Specialists:

I came up with a short turn the other day when one of our field men sat down with me and seriously discussed the subject of how he was going to get time to handle his regular job with all these specialists coming in on him and expecting him to knock off and show them around. That sounds funny, but it isn't. Each of these specialists is a corking fine fellow almost without exception; each of them is right up on his toes and thinks his specialty is the most important work of the National Park Service. None of them ever stops to wonder how we ever handled visitors before their

CLOSING (CONT.)

particular department was born, because few of them ever look beyond their specialty and we have no specialists in visitors; the foundation upon which the Park Service is built.

Anyway, we think we found a solution, or at least a partial solution to the problem and that fellow is going to have more time for his real job and the specialists are going to be happy and all's well with the world. If it works out we are going to copyright it and sell district rights to the other superintendents and get rich. In other words, we are on the way to becoming a specialist in how to handle specialists.

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent.

NATURAL BRIDGES

By Zeke Johnson, Custodian

(Just as we go to press comes some interesting news from Zeke)

I am very glad to report all is well with me and the monument I represent. We may have fallen down a little this month in quantity of visitors, but not in quality. First, came Deric Nusbaum and his mother; then the Forbes and the Hennings; Dr. and Mrs. Montgomery and their two daughters; Captain and Mrs. Graham. of U. S. Army of San Francisco; two members of the State Road Commission; and many other very fine and interested people. I certainly enjoy talking to and hiking with people that can see beauty at every turn. It was my pleasure to hike with the Forbes and Hennings, a very interesting day for me. I never tire of hiking when people are interested and it has been my great pleasure to be able to interest most all the people.

The first part of July was very hot and dry, but during the last eight or ten days we have had several showers and several floods down both canyons, so it is cool and nice at the monument now. Grass and flowers are plentiful. I am trying to keep horses out of the canyons this season. There has been none in yet. I ~~sowed~~ a lot more sweet clover than last fall and it is growing nicely. I want to improve the amount of vegetation and by keeping horses out of the canyons I can do it. A few deer and mountain sheep are still grazing in the canyons, but they don't stay long.

NATURAL BRIDGES (CONT.)

Roads were never better. I have had Mr. Wilson working on trails for three weeks. He is surely a good trail builder and knows the needs of every turn. He will be there for a few days yet. We are taking out many crooks and turns and steep places.

I am hoping now that the cool weather will bring more visitors for I am always in my glory when I have some one to assist me in seeing and learning of the beauties of the Southwest.

I want to thank you for the "Broadcast" and the fine mention of me. I read every word of it.

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

(A second belated report is received just as we go to press)

We had an average of a little over one hundred visitors per day during this month. I would estimate three thousand five hundred at the Monument for July. They have come from almost every state and some foreign countries. No notables or of Royal blood that I have trace of have visited this Monument this month, altho many are in and out that I am unable to contact.

Some work has been done on the road this month, and we are working now on the road and trails and camp clean-up and repairs.

Weather has been rather warm for July, with a light shower each week during the month and grass and trees are looking fairly well. We do not have the profusion of wild flowers this spring and summer that we have some seasons.

The porcupines are doing considerable damage to the trees and if this is not soon abated I will apply for a permit to thin them out. Undoubtedly the trees are worth more to the Monument than the porkies and we can leave a few of these just in case some tourist desires to see one or make a seat out of one.

THE Supplement

S-M MONTHLY REPORT

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GEOLOGY OF NAVAJO NATIONAL MONUMENT

By Vincent W. Vandiver, Reg. Geologist

INTRODUCTION

The purpose of my trip to the Navajo National Monument was to ascertain the geological features in the vicinity of the ruins in order to prepare a formal report on the area. The Monument was reserved on the basis of the archeological interest. It is considered important however that the Park Service staff be informed on the geological aspects since numerous visitors ask to be advised on these questions and since such features have had a direct bearing on the presence of the Pueblo cliff dwellers in the area.

LOCATION

Navajo National Monument is situated in the northwestern part of the Navajo Indian Reservation, in northeastern Arizona. It is composed of three units, - Betatakin Ruin, Keet Seel Ruin and Inscription House Ruin. These areas comprise a total of 360 acres and were reserved by the Government in 1909 and 1912 as a means of preservation of some of the most important remains of Pueblo cliff-dwellings thus far discovered. The maximum distance between the three units of the Monument is about 20 miles although this distance by trail or road due to the necessity of circuitous routes is much farther.

Betatakin Ruins and Keet Seel Ruins may be approached from the southwest from Shonto and from the east via Kayenta. The road leads to the top of the mesa above Betatakin and a trail for horse trips has been constructed into the canyon, distance of about a mile, to this point. A rough horse trail is available to Keet Seel from Betatakin which is approximately eight miles in length. The route to Inscription House Ruin turns north along the Rainbow Natural Bridge road about midway between Tuba City and Kayenta. Travel may then be made by car westward for a distance of about two miles from the Inscription House trading Post at which point the rim of Navajo Canyon is reached. A horse trail has been constructed into the canyon and the ruins are located about four miles distant from the rim.

Mr. John Wetherill of Kayenta, Arizona, is custodian for the Monument. Mr. Milton Wetherill is the acting ranger in charge and is stationed at the Betatakin Ruin.

CLIMATE

The climate of this section of the Navajo country is arid. The rainfall average for eleven years to 1927 at Kayenta, with an elevation of 5,800 feet, amounted to 8.80 inches per year. The minimum temperature

during this period was -18° F. with a maximum of 104° F. The average annual range at this point is between -8° F. and 101° F.

HISTORY

There are over three hundred cliff-dwelling ruins in the Tsegie Canyon drainage system north of Marsh Pass and while I have visited only a few of them, besides those included in the Monument, it is understood that they are all constructed in alcoves of the Navajo sandstone. There are times when a geologist may map outcrop of a formation from the surface vegetation and here from the association of the number of ruins with the Navajo formation it would seem almost possible to use this criterion.

Betatakin

This ruin is located in a magnificent arch of Navajo sandstone, on the west side of Tsegie Canyon, about one and one-half miles below the junction with Dogoszhe Beco Canyon. Betatakin was so named from the Navajos which means "Side Hill House." The enormous archway in which the cliff-dwellings were constructed is 425 feet in height to the crown, has a span of 370 feet, and reaches a maximum depth of 135 feet. It is difficult to realize the proportions of the arch or window until one has stood in its recesses and looked outward across the canyon. The great Rainbow Natural Bridge could be placed inside of the archway with room to spare. The dwellings consist of some 135 rooms and they rank fourth in size of those discovered thus far. From tree ring data it has been discovered that the ruins were inhabited from 1242 to 1277 A. D. One of the best springs in the country flows out of the sandstone cliff at the base of the arch with a flow of one and one-half gallons per minute. Betatakin was first known in 1907. In 1909 Mr. John Wetherill conducted Professor Byron Cummings to the site just prior to the First Rainbow Bridge expedition. In 1917 Mr. Neil Judd cleaned and repaired certain portions of the Betatakin ruins.

Keet Seel

This ruin derived its name from the Navajo term Keet Seel or "Broken Pottery" and it is located in the canyon of the same name, some eight miles by trail above the Betatakin ruins. It contains 152 rooms and is the second largest Pueblo cliff-dwelling known and ranks second to the largest ruins located at Mesa Verde National Park. Discovery was made by Richard Wetherill in 1894 who was accompanied by Mr. Charles Mason. They revisited the site in 1897. Some restoration and cleaning was carried on with CWA funds in 1934. The dwellings are indeed spectacular and one would not need to be an archeologist to enjoy spending considerable time at the site. They are also located in a huge archway in the Navajo sandstone. Slabs of Kayenta sandstone were carried from some distance below in Keet Seel Canyon for certain parts of their

GEOLOGY OF NAVAJO NATIONAL MONUMENT (CONT.)

construction. The site was inhabited by Pueblos from 1116 to 1284 A.D. and it is considered that these peoples together with those of Betatakin migrated to Canyon del Muerto (Canyon de Chelly) because of drought conditions.

Inscription House

These ruins, located in Navajo Canyon, were named from a dim carving on the wall which has been interpreted to read "Carlos Arnais 1661". A party headed by Professor Byron Cummings discovered the ruins and the inscription several years ago. The dwellings are located more than 150 feet up on the side of a cliff of Navajo sandstone and the inhabitants were well protected. A rather large cave is present on one side. Some protection must have been desirable as other sites might have been selected which would have been more accessible. Occupation was during the Pueblo III interval. Some water is in evidence in the stream bed of the canyon which is probably fed by springs. No doubt some water could be developed in the canyon from seeps.

Besides the above mentioned ruins which have been included in the Navajo National Monument there are many others of importance in this area some of which are Swallows Nest, Rope House, Platform House, Bubbling Spring, Turkey Cave, Turkey House, Ladder House, Bat Woman, Twin Caves, Horn Basket and Spruce Tree House. They contain from 20 to 30 rooms.

GEOLOGY

The three units of the Navajo National Monument are all located in the lower part of the Navajo sandstone formation. This massive wind blown deposit outcrops over wide areas to the northwest of Black Mesa and forms the uppermost member of the Glen Canyon group, generally recognized to be Jurassic in age. As yet no fossils have been found in the Navajo sandstone to definitely establish its age so that it should be kept in mind that this classification is tentative. The sedimentary rocks involved in the three units of the Monument and vicinity are composed of Pleistocene or Recent Lake Beds; Navajo sandstone, Kayenta formation, and Wingate sandstone of the Glen Canyon group, Jurassic (?) in age; and the Chinle formation of the Upper Triassic. A stratigraphic section indicating additional details of the above mentioned formations is included on page following.

PLEISTOCENE TO RECENT

In recent years, possibly not more than 25 years ago, Marsh Pass as well as Tsegie ("Lakes in the Canyon") Canyon contained swamps and lakes which have since been drained by a deep arroyo. Overgrazing is generally conceived as being responsible for this new erosion cycle. There is much evidence of an extensive series of lakes in both Tsegie

STRATIGRAPHIC SECTION, NAVAJO NATIONAL MONUMENT

AGE	FORMATION	THICKNESS (FEET)		CHARACTER OF ROCKS	
		REGIONAL	LOCAL		
RECENT TO PLEISTOCENE	LAKE BEDS		0 TO 60	Sands and gravels deposited in an old lake bed or series of lake beds which once occupied Tsegie Canyon. Several different periods may be recognized. Plant remains and several varieties of fresh water shells are present.	
JURASSIC (?)	GLEN CANYON GROUP	NAVAJO SANDSTONES	400 to 1100	900	Massive buff to grey sandstone, with spectacular cross-bedding and well developed jointing. contains local limestone lenses. Weathers various shades to brown and red. Prominent cliff maker. No determinable fossils have been discovered. Of a total of over 300 ruins in Tsegie Canyon drainage system all are in this formation. The Navajo Monument ruins occur near the base. Wide-spread tangential cross-bedding has made possible the huge development of arches, alcoves and caves.
		KAYENTA FORMATION	0 to 225	0 to 225	Uniformly bedded, red to buff sandstone, with interbedded shale. Weathers a grey vermilion. More slope forming than Navajo sandstone. No fossils have been found although dinosaur tracks have been located to the north of this area.
		WINGATE SANDSTONE	30 to 450	150 to 250	Buff cross-bedded sandstone which forms vertical cliffs. Cross-bedding not so highly developed perhaps as in the Navajo sandstone. Weathers deep red to black. Unfossiliferous although dinosaur tracks reported.
UPPER TRIASSIC	CHINLE FORMATION	0 to 1182	0 to 70	Variegated shale which contains silicified wood. Exposed in the lower parts of Tsegie Canyon. Supplies much of the paint in the Painted Desert area.	

GEOLOGY OF NAVAJO NATIONAL MONUMENT (CONT.)

and Keet Seel Canyons. Sands, gravels and clays have been deposited in regular beds up to 60 feet or more in thickness. The trail leading from Betatakin to Keet Seel shows a remarkable development of this formation. The remains of plants and pollen together with the presence of fresh water shells buried in these beds has led geologists to believe that lakes were depositing their sediments from the Pleistocene to Recent times. Several different stages of development or cycles may be observed in sections of the Lake Beds where the present drainage system has unfolded excellent exposures. These beds usually cover the Wingate sandstone in the lower portions of the canyon although in some instances it is the Chinle formation that is obscured.

JURASSIC (?) - GLEN CANYON GROUP

Navajo Sandstone

The uppermost member of the Glen Canyon Group in this area is the Navajo sandstone formation. This formation contains the three units of Navajo National Monument and it is stated that there are some 300 other cliff-dwellings in the Tsegi Canyon drainage system which are also found in the Navajo. A superb display of cross-bedding with tangential planes a conspicuous feature and the almost total lack of horizontal bedding characterizes the formation. It is composed of sub-angular to rounded grains of quartz of medium size, which are rather loosely cemented by calcium carbonate. On fresh surfaces the color is buff to grey and upon weathering various shades of red and brown stand out. The coloring has not been so spectacularly applied to the Navajo in this area as in the Virgin River Canyon at Zion National Park. Box canyons and huge dome have been carved in this sandstone until passage on foot is treacherous and in many instances impossible. Rainbow Bridge and several other natural bridges in the area have been carved from the Navajo formation.

The Navajo sandstone is generally recognized to be of eolian origin. The rareness of horizontal bedding and the presence of cross-bedding on an enormous scale, together with the absence of silt and almost total absence of fossils tend to support this theory. There are thin lenses of limestone in the Navajo Monument area, especially in Navajo Canyon, indicating that at least some of the sediments were deposited by water. Efforts were made to locate fossils in these limestone lenses but no success was had. Brady (5) describes a small theropod which was discovered about two and one-half miles east of the Inscription House Lodge in the Navajo sandstone. The possible remains of a small dinosaur in this formation were found above Turkey Cave. The bones were located about 750 feet above the base of the sandstone in a sandy shale lense and it is stated by C. Camp of the University of California that they "show evidence of belonging to a different group from any dinosaur yet discovered." A few bone fragments are in evidence just below Keet Seel ruin but these are considered to be too fragmentary to serve for identification purposes. No fossils have been discovered thus far to actually determine the age of the sandstone.

Baker (3) states that the Navajo sandstone thickens towards the west and is believed to include all of the massive Jurassic sandstone that crops out in northern Arizona and southern Utah west of a line through Less Ferry, Arizona. He also states that the source of the sediments is not definitely known but concludes from the westward thickening of the formation that the source presumably lay in this direction.

Gregory (1) describes the factors involved in the formation of the arches and alcoves in which the cliff-dweller constructed his home in excellent fashion and the following is quoted from his paper, - "The sandstone cliffs in this region are beautifully sculptured; buttresses and recesses are common, overhanging walls are characteristic, and the wide open mouths of niches and caves perched high on the canyon walls are conspicuous. These cavities, protected from the rain, from the glaring heat of the sun, and from suffocating sandstorms, were widely utilized by the ancient inhabitants as building sites - rock shelters or cavate dwellings, as the terms are used by the archeologists. The structure of these beds is favorable for the production of rock shelters. The rock composing them is porous, elaborately cross-bedded, and traversed by joint planes set far apart. The curved laminae of the cross-bedded strata, 1 inch to several feet thick, are held together by weak cement that is easily removed by percolating water. Slight undermining along zones of the more impervious rock permits the overlying laminae to fall in response to gravity. They drop to the floor as a unit or in separate slabs; the crushed fragments, with cement already removed from the spherical grains, rapidly disintegrate and make their way to the mouth of the cave. As the process continues shell after shell is removed and the arched roof cave is sunk farther and farther into the face of the cliff, until building sites 200 to 3,000 square feet in area are prepared for the cliff-dweller. All stages of the work are represented. In some caves shells of partly detached rock bridge the entrance; in others blocks on the point of falling extend downward from the roof, and the floor is piled high with fragments that crumble under the blow of the hammer; still others are free of debris, and the rock of the roof and sides is firm. The work of ground water is forming these rock shelters is evident. Some of the caves are dry or streaked with moist alkali 'bloom'; in others water oozes continuously from the wall over a wide area marked by moss and ferns; many caves contain perennial springs whose outlet is definitely localized. The conditions that permit the formation of rock shelters in massive beds of sandstone--namely, tangential cross-bedding and porosity in rock of uniform composition--also favor the production of windows and natural bridges."

Kayenta Formation

The Kayenta formation in the vicinity of Navajo National Monument varies from 0 to 125 feet thick whereas regionally it is almost twice this thickness. It is uniform to irregularly bedded and consists mainly of sandstone with some interbedded shale and in some instances limestone and conglomerate. The character of the bedding is the main criterion

for distinguishing it from the massive cross-bedded sandstones above and below. There are cross-bedded sandstones in the Kayenta however and for this reason it is difficult at times to draw the contact with certainty. Since no fossils of significance have been collected from the Kayenta it has been the general practice to include all of those sediments which show distinct bedding within the limits of this formation. At several localities dinosaur tracks have been found but the nearest identification that has been made is that they are not older than the Triassic. Colors range from purplish red to buff and upon weathering the beds are greyish purple to reddish brown. Generally the Kayenta is darker than the overlying Navajo sandstones. The name Kayenta has recently been adopted by the U. S. Geological Survey to replace the name Todilto formation. The type locality for the former is about one mile north of Kayenta, Arizona, and it is tentatively classified as Jurassic (?). Outcrops of the Kayenta may be seen just below the Betatakin ruins and along the trail to Keet Seel ruins. The formation lenses out in the vicinity of Keet Seel and apparently the slabs of sandstone used in the construction of part of the dwellings at this site were carried a mile or more from the canyon below. These beds were laid down in fresh water by shifting streams.

Wingate Sandstone

The Wingate is a buff colored highly cross-bedded sandstone with rare limestone lenses and local conglomerates near the base. It has many of the characteristics of the Navajo sandstone. On weathering the Wingate acquires darker shades of red to tones almost black. It is massive forming vertical cliffs and narrow gorges with vertical joints a prominent feature. It comprises the lower formation of the Glen Canyon group and again no fossils have been found which could be used to definitely establish the age and it is tentatively classified with the Jurassic (?) along with the Kayenta and Navajo. The uniform character of the sandstone and the highly developed cross-bedding together with almost total lack of fossils (a few dinosaur tracks have been reported) is most suggestive of eolian origin. The Wingate sandstone may be observed below Betatakin ruins and in the Tsegi and Navajo Canyons en route to Keet Seel ruin. At many points along the latter trail it is obscured by the Lake Bed deposit. Nothing below the Navajo sandstone is present in Navajo Canyon along the trail to Inscription House ruin.

Chinle Formation

The Chinle is less than 100 feet thick in Tsegi Canyon along the trail to Keet Seel. In the general region it is as much as 1182 feet in thickness. It is in the main a variegated shale and can easily be distinguished from the above mentioned Wingate sandstone. Fragments of silicified which are almost always in evidence in the Chinle have been collected in Tsegi Canyon and reptilian bones have been reported from these beds in Tsegi Canyon in the direction of Marsh Pass. Vertebrate fossils have been found at many places which place the age of the

GEOLOGY OF NAVAJO NATIONAL MONUMENT (CONT.)

formation as Upper Triassic. Both the invertebrate and vertebrate fossils are fresh water forms and the Chinle is therefore considered to be of continental origin.

ROADS

The road to Betatakin which leads from the main Tuba City-Kayenta road is in very bad shape. To the one who is familiar with driving in the Navajo country there is perhaps little chance of getting stuck but to the tourist most every opportunity is apparent. A few days with the scraper (grader) on this stretch of road would make the two eastern units of the Monument much more accessible to the large amount of tourist travel from Utah and northern points coming through Kayenta. The approach from the south via Shonto is in much better condition.

INFORMATIONAL SIGNS

At each of the three units which make up the Navajo National Monument there should be posted the Park Service "Vandalism" sign. It would be desirable to have markers one mile apart on the trail to Keel Seel and also to Inscription House. This would give visitors who are not accompanied by a ranger the assurance that they are on the right trail and also the satisfaction of knowing how much climbing remained. The trail from the rim of the mesa to Betatakin is marked.

I would like to suggest the following informational signs to be erected along the trails naming the geological formations:

I. NAVAJO SANDSTONE
 JURASSIC (?) AGE

The sloping surfaces of this sand indicate that it was deposited in dunes by the wind. The rock shelters of the Cliff Dweller were formed by the action of percolating waters on the porous cross-bedded sandstones where slab after slab is undermined and falls. See if you can observe stages of this process now under way.

Note: Three such signs are needed for each of the units of the Monument.

II. KAYENTA FORMATION
 JURASSIC (?) AGE

The uniform to irregularly bedded sandstones and shales indicate that they were laid down in fresh waters by shifting streams. See if you can point out the contact between these beds and the

highly cross-bedded sandstones above and below.

Note: Two such signs needed for Betatakin area and Keet Seel trail.

III: WINGATE SANDSTONE
 JURASSIC (?) AGE

The uniform texture, large scale cross-bedding and lack of fossils strongly suggest that these sandstones were deposited by the wind in the form of dunes.

IV: CHINLE FORMATION
 UPPER TRIASSIC IN AGE

These variegated shales contain shells, reptilian remains, and silicified wood which have established their age. They are fresh water forms and the formation is considered to be of continental origin. Ask the Ranger to show you Petrified Wood from these beds.

Note: One sign needed to be placed along the Keel Seel trail.

V: LAKE BEDS
 PLEISTOCENE TO RECENT IN AGE

Sands, gravels and clays deposited in old lake beds which once occupied this valley. Plant remains and fresh water shells are found in abundance and the Ranger will point these out to you if you wish.

Note: One sign required to be posted along the Keet Seel trail.

CONCLUSIONS

Navajo National Monument is a most interesting area. While I am not familiar with the fundamental archeological factors the ruins were just as spectacular to me as some of those contained at Mesa Verde National Park. It is surprising that so few people living in northern Arizona know of the importance and inspirational character of this Monument. The Park Service is indeed fortunate in having Milton Wetherill on duty as Acting Ranger at Betatakin. He was most helpful to me during my recent trip and is greatly interested in all of the different angles of the Monument. He has made a study of the plants and is now working on the birds and animals.

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CHACO CANYON RODENT CONTROL

By A. E. Borell, District Wildlife Technician

At the request of the Soil Conservation Service and under authorization from the Director of the National Park Service, I undertook the work of controlling rodents in certain portions of Chaco Canyon National Monument.

PURPOSES

Erosion is very serious at Chaco Canyon and several ruins are in danger of being undermined and washed away by floods. During the past year the Soil Conservation Service has constructed a number of dikes in an effort to spread flood waters and check erosion. Representatives of the Soil Conservation Service felt that rodents living in the vicinity would burrow into the dikes and carry away the seed which is to be planted in order to vegetate the levees. On March 12 and 13 I went over the area with Agronomist H. B. Coddington, Biologist L. V. Compton and Project Superintendent L. F. McKinney of the Soil Conservation Service and Custodian T. C. Miller. Conferences were also held with Associate District Manager W. G. McGinnies, Engineer Clifford and Regional Biologist E. D. Eaton of the Soil Conservation Service, and extent and methods of control were agreed upon. The Soil Conservation Service loaned men to assist with the work and cooperated in every way possible.

METHODS

The work was carried on with a "Karbo-Killer" pump. (Using carbon bisulphide) and traps. Although much of the soil was sandy and comparatively dry, the Karbo-Killer worked satisfactorily but it was evident that the gas would have been more efficient if the soil had been moist. We found that in dry sandy soil it took from 12 to 20 strokes of the pump for single burrows and from 20 to 60 strokes in mounds with several openings. Even 60 to 80 strokes were not always effective in the large mounds of banner-tailed kangaroo rats. For these No. 0 steel traps or rat traps proved to be the most effective. Experimentation showed that it took very little gas if the rodents were confined to a box or canvas bag. Under these conditions, kangaroo rats, pocket mice and white-footed mice died in less than one minute after a small amount of gas was pumped into the container.

Kangaroo rats did not take readily to rolled oats, peanut butter, bacon, or raisins which we used for bait. At this season they were feeding largely on green vegetation, the seeds of Russian thistle and other weed seeds. This being the case, we found that traps set directly across the entrances to burrows were the most effective. That is, we counted on the rodents running over the traps rather than going to them for bait. Fewer traps carefully set brought better results than large numbers of

RODENT CONTROL AT CHACO CANYON (CONT.)

traps set promiscuously.

AREA COVERED:

A total of 4,380 feet of dike was covered. Control extended 300 feet on either side of each levee and 300 feet beyond the ends of each. The 4380 feet of dike consisted of 11 separate dikes located in different parts of the monument. Three levees were located in one group and two in another. This reduced the area worked since they were less than 300 feet apart. This makes approximately 5,000,000 square feet worked. Stating it another way, the total area worked was equal to a strip 600 feet wide and almost two miles long.

LABOR AND TIME REQUIRED

Custodian Miller, Project Superintendent McKinney, Junior Biologist Dennard and myself spent a total of 29 man-days on this project. Navajo labor was used to the extent of 9 days. I worked on the project May 17 to 25, 1936, inclusive, and from June 5 to 11, 1936, inclusive, total 16 days.

EQUIPMENT AND COST

"Karbo-Killer" Pump-----	\$27.50
Carbon Bisulphide, 20 galls @ \$1.15 a gal.-----	23.00
Freight & Express on above, approximately-----	4.00
Bait for traps-----	1.00
Gasoline, approximately-----	7.50
Total-----	\$63.00

Approximately 350 traps were used but these were already on hand and were not purchased for this project.

SPECIES INVOLVED

1. Kangaroo Rat, Dipodonys longipes. This species was found in every area worked and usually was more numerous than any other species. Carbon bisulphide worked satisfactorily on them but many were also taken in traps.

2. Banner-tailed Kangaroo Rat, Dipodomys spectabilis bailyi. Although not so numerous as the smaller species, it was common and its larger burrows and mounds were very conspicuous. Most of these mounds were barren of vegetation and distinct trails led into various directions. Some of their mounds were 12 or more feet in diameter and had from 6 to 15 openings. In these mounds also were large chambers. We found that it took an enormous amount of gas to effectively treat these mounds. Small steel traps or rat traps were most practical.

RODENT CONTROL IN CHACO CANYON (CONT.)

3. Baird's Pocket Mouse, Perognathus f. flavus. These very small mice were common in sandy areas. Only eleven were caught in snap traps but thirty-three were taken in the Sherman Catch-em-Alive traps although we used three times as many snap traps. Most of these caught in "live-traps" were taken away from the levees and released.

4. Antelope Ground Squirrel, Ammospermophilus l. cinnamomeus. Common in the vicinity of rocks and along the banks of washes. Only a few occurred on the flats. Since most of their burrows were beneath rocks or in broken banks it was difficult to reach them with carbon bisulphide. They came to any kind of bait and were readily taken in rat traps.

5. Grasshopper mouse, Onychomys l. melanophrys. Fairly common in sandy areas. Since this species feeds largely on insects we made no effort to dispose of them. All that were taken in live traps were released some distance from the levees.

6. Harvest Mouse, Reithrodontomys m. aztecus. Rare, only a few taken and these were usually among the heaviest brush.

7. Canyon Mouse, Peromyscus c. auripectus. Few along the rocky ledges and about the ruins.

8. True White-footed Mouse, Peromyscus t. truei. Rare, only two were taken, these at the base of a cliff.

9. White-footed Mouse, Peromyscus m. rufinus. Common in all associations but nowhere abundant.

NOTE: The above identifications are based entirely on range and field identifications. Specimens of each were preserved.

DESTRUCTION OF OTHER SPECIES:

Two canyon towhees, one black-throated sparrow and one hermit thrush were caught in traps. No other vertebrates were affected except a few lizards and snakes which may have been in the burrows which we gassed.

EFFECTIVENESS OF TRAPS AND CARBON BISULPHIDE:

After we worked out a method of procedure we had good results. We found that the most efficient method was to first go over the area with the Karbo-Killer pump, then work the area a day or two later with traps. It was necessary to use traps in order to get the rodents living under rocks, along steep banks, and in heavy brush where we could not use gas. Tracks and fresh workings would tell us where rodents were still active if we waited a day or two after gassing before using traps. To make a thorough job we found it desirable to go over each area a third time with either traps or carbon bisulphide. I estimate that from 80 to 85 per cent

RODENT CONTROL AT CHACO CANYON (CONT.)

of all rodents were removed in areas which we worked twice and from 90 to 95 per cent in areas which we covered three times.

We found that the large banner-tailed kangaroo rats came to bait more readily and were more easily trapped than the smaller species. We also found that it took so much gas to be effective in the large dens of this species that traps were more practical.

GENERAL COMMENTS AND CONCLUSIONS

Project Superintendent McKinney and Custodian Miller agreed that our control was sufficiently thorough and that there weren't enough rodents left to affect revegetation or to damage the new levees. A little follow-up work may be necessary until the levees are settled and revegetated.

I am convinced that traps and carbon bisulphide provide a practical method of control on limited areas.

Although the expense is greater and more time is required, I believe that this method is more effective than poison grain, at least at certain times of the year. As stated above we found that kangaroo rats, at this season, were feeding on green vegetation, seeds of Russian thistle and other weed seeds and paid little attention to rolled oats. This being the case I believe that poisoned oats would not have brought the desired reduction among kangaroo rats which are the rodents which we were most concerned about.

I am also convinced that the abundance of rodents in Chaco Canyon is largely the result of overgrazing. Now the area is fenced and vegetation is coming back rapidly. I believe that there will be a noticeable decrease in rodents during the next few years as scattered weeds and brush are replaced by grass.

Thirty-six of the mammals and three of the birds taken in traps during the control work were prepared as study skins. All birds, reptiles, and other mammals observed were recorded.

AMERICAN INSCRIPTIONS

By Evon Z. Vogt, Jr.

On the north face of El Morro, one reads the following inscription: "Lt. J. H. Simpson USA and R. H. Kern, Artist, visited and copied these inscriptions September 17th, 18th, 1849." A translation card nearby states that Lt. Simpson and Kern were the first Americans to visit El Morro and bring it to the attention of the public. It is true that they were the first men to bring the inscriptions to light, but they were not

the first Americans to see El Morro.

The Navajo trader, Mr. Lewis, who guided Simpson and Kern to El Morro must have been there before September, 1849, and over 13 years before that time some unknown and forgotten American traveled the old trail by El Morro, for Simpson and Kern found the following characters carved on the south face of the Rock near the Onate inscription:

O. R.
Mch 19th, 1836.

Who was this man O. R.? Was he a Navajo trader, a soldier, or an explorer? Was he traveling alone through the wilderness? What hardships and narrow escapes did he experience? Quien sabe? One can imagine a great number of things. Too bad he did not leave his whole name and record of his journey.

Until just recently we have thought that those initials and date had been obliterated by a century of wind and rain. Then on July 19, 1936, just 100 years and 4 months after they were put on, the initials were rediscovered. They have been defaced by some modern vandal to such an extent that one can only make out traces of the O. R., traces of Mch 19th, but the 1836 is still quite plain.

Simpson and Kern also left an inscription on the south face of the cliff which reads as follows:

Lt. J. H. Simpson USA
&
R. H. Kern, Artist
September 17th & 18th, 1849.

Not far away is the name: W. Bird
1849.

Bird was Simpson's orderly.

There seems to be no 1850 date on the Rock but in 1851 the Sitgreaves Expedition visited El Morro. Kern was along and left his name on the cliff in two places as he did before. On the north side near his 1849 inscription he cared:

R.H. Kern
Aug. 29
1851

His name is also on the cliff south of the Ranger's cabin along with Lt. Sitgreaves and Dr. Woodhouse. They are all together and are in the following order:

L. Sitgreaves USA
Aug. 30, 1851

Dr. S. W. Woodhouse
Aug. 30th, 1851

R. H. Kern
1851

After 1851 there were many Americans traveling the first highway across New Mexico. In 1858 the first emigrant train passed en route to California. There is a name on the cliff for almost every year until about 1922 when the engraving of names on the Monument had to be stopped.

THE DEATH OF R. H. KERN

R. H. Kern who visited El Morro first in 1849 and again in 1851 with military expeditions met a tragic death in the Gunnison Massacre in Utah in 1854. The following story of his death was given me by Charles Kelly of Salt Lake City.

In 1854 the Gunnison Expedition under command of Lt. Gunnison entered Utah and went down into the central part of the state. There they encamped one night in a small willow patch along the Gunnison River. Every member of the party slept in a group under the willows except two men who rolled out their beds in another patch of willows a hundred yards away. During the night their camp was surrounded by a party of hostile Pavant Indians. The first one to get up in the morning was the cook who was a bald-headed man. As soon as his bald head shone above the tops of the willows, he was filled full of arrows. He looked like a porcupine when the Indians finished with him! The terrified shouts of the cook awoke the other members of the party who jumped up and were all filled with arrows except the two who slept in the other willow patch. These men ran in opposite directions. Each thought that he was sole survivor of the massacre until they later met at a fort miles away.

R. H. Kern, artist for the party, was one of the men who jumped up to see what was going on when the cook shouted!

Lt. J. H. Simpson U S A & R. H. Kern Artist,
visited and copied these inscriptions,
September 17th / 18th 1849.

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RUMINATIONS

The Southwestern Monuments have been evolving for some sixteen or eighteen years now and two or three matters have arisen in the last month to make me run back over that evolution.

The idea did not spring up overnight. No group sat down around a table and said: "Go to! We will now have a Southwestern Monuments District and it shall be thus and so big and it shall have a Superintendent and an Assistant Superintendent and three office clerks and two stenographers and four technicians, all in a special set of offices, far removed from a national monument, and they shall constitute the Southwestern Monuments Headquarters."

That would have been lovely, no doubt, and our evolution would have led us through a different set of mistakes than the ones we have committed. The trouble was that we had a group of monuments down here and we didn't have any men to speak of or any money to speak of or anything else to do anything with so we just started from zero, and, being at the bottom, the only way we could go was up. I had been running the Casa Grande for a good many years and when a case of vandalism a little more serious than usual occurred down at Tumacacori and a local cry for us to do something about it went in to Washington, having no men and no money, the Office wrote me to take over Tumacacori and do the best I could toward administering it. Next some vandalism at the Montezuma Castle caused another local cry to reach Washington and I had another monument on my string. Then came the Petrified Forest, and so, one by one, the string lengthened. I continued to live at Casa Grande National Monument and run it, handling these other monuments more or less as a side line with twelve-dollar a year men and practically no funds. The evolution was slow through those years but, looking back at it, I can see that we were making progress and were hatching out a new idea once in a while, and, our progress being slow, our percentage of mistakes was pretty reasonable, and the whole thing grew gradually and in response to the various needs.

Finally, when I got spread out pretty thin over a pretty large area, it was decided that we would put a helper here at Casa Grande and give me a little more time to get around to the other places. Having two men at Casa Grande National Monument naturally made that the headquarters of the Southwestern Monuments and after another two or three years it was so designated and I was called Superintendent. I am trying to show you how natural the evolution was; the work just grew and after you had been doing it a couple of years, the designation caught up with you, or the salary was raised another notch, or some notice was taken of the fact that the job had expanded.

This growth of the headquarters staff at one of the monuments instead of some place else was a most natural thing, because when two of us made up the headquarters staff we were also operating the Casa Grande National Monument; it would have been nonsense to move off to some town leaving

RUMINATIONS (CONT.)

the Casa Grande unprotected.

So we continued to grow and finally came to the place where we could divorce the Casa Grande National Monument and Southwestern Monuments forces. In the process of evolution there was a period when monument men were used on staff work and staff men were used on monument work, depending upon peak loads, time of month, etc. That time is now past; both loads are heavy enough now to demand all the time of both crews, each on its own job. It was during that little period, however, that we got a good deal of yowling, from field and staff that we were sacrificing staff time, which ought to go to the field, to bolster up our favorite monument, Casa Grande. That phase is now past, but, looking back at it, I still think at that stage of our evolution we were doing the right thing.

Not many of you understand that Casa Grande has been for several years, and is right now, and will be for some time to come, one of the most important visitor contact station of the Southwestern Monuments. Knowing how to meet visitors is the second biggest job we have, or can have, in our work, - and we will never be perfect in the technique of it. We can handle our actual office work, the technique of records, etc., in a town in our district or at Casa Grande equally well, but I don't want any technicians or specialists we have or may have on our staff to get too far away from visitors. If anyone thinks all the reactions of visitors at our monuments are well known and can be predicted, I wish he would write his knowledge down in a book so we could promptly shoot it full of holes. We have been too busy thus far in the history of the Service building roads and structures and working out administrative problems to give enough time to the study of visitors, but that is not going to be a valid excuse for many years longer. Our mistakes, caused by our lack of information, are going to become so plain that we will have to do something about it, and I would like to have our men in the lead when it comes to making a serious study of visitors. The only way I know to handle the problem is to go where there are a lot of visitors and mix with them, study them and ask plenty of questions.

In the last nine months or so, of 10,558 field trips given to visitors by our custodians and rangers, 2,879, or 27.2%, were given at Casa Grande. Of the 60,806 visitors who took those field trips, Casa Grande had 21,290, or 35.01%.

Of the 4,478 museum lectures given by our men in that time, Casa Grande gave 1,683, or 37.5%.

Of the 27,592 visitors to whom those museum lectures were given, Casa Grande had 12,826, or 46.4%.

Of all the educational contacts made by our men during that time, amounting to 108,343, Casa Grande had 43,425, or 40%.

RUMINATIONS (CONT.)

Did you know that the men on duty at Casa Grande handle more visitors per man per month than any of our other men?

Now, since our natural evolution has developed our headquarters at one of the finest laboratories in our district for the study of visitors, why in the name of common sense should we take our headquarters away from this laboratory to a town in order to send our staff men back to this or some other monument so they can study visitors? Our work is entirely different from that of the Forest Service and while an analysis of their work puts their headquarters in towns, an analysis of our work would put our headquarters out where the visitors are. The visitor is our customer, not the man who wants to sell us cement. This latter man will find us wherever we are, and even he has no trouble when we are sitting on the end of a telegraph and telephone wire, have a daily mail delivered at the door and a transcontinental railroad three-quarters of a mile away.

These ruminations are caused in part by a recent offer or suggestion or what will you on the part of an Arizona city that we move our headquarters into its midst, and it doesn't seem to us it fits in with our line of evolution, which, while slow and halting and spotted with mistakes, seems to have fitted into our needs pretty well.

Cordially,

Frank P. Long

Southwestern Monuments . . .

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PORT . . . AUGUST . . . 36

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N. P. S.

SOUTHWESTERN MONUMENTS

AUGUST 1936, REPORT

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SOUTHWESTERN MONUMENTS PERSONEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent; Hugh M. Miller, Assistant Superintendent; J. H. Tovrea, Assistant Engineer; Robert H. Rose, Assistant Park Naturalist; Dale S. King and Charlie R. Steen, Junior Park Naturalists; Millard Singerman, Clerk-Stenographer; Luis Gastellum, ECW Clerk; Deric Nusbaum, Traveling Ranger; Clarence Cole, Student Technician.

FIELD STATIONS:

1. Arches---Moab, Utah. W. M. Turnbow, Custodian.
 2. Aztec Ruins---Aztec, New Mexico. Johnwill Faris, Custodian; Robert W. Hart, Ranger-Archeologist.
 3. Bandelier---Sante Fe, New Mexico. Earl Jackson, Custodian; J. W. Hendron and Alfred Peterson, temporary Rangers.
 4. Canyon de Chelly---Chin Lee, Arizona. Robert R. Budlong, Custodian; Doug. Harritt, temporary Ranger.
 5. Capulin Mountain---Capulin, New Mexico. Homer J. Farr, Custodian.
 6. Casa Grande---Coolidge, Arizona. J.W. Winter, Custodian; J. Donald Erskine, Park Ranger; Frank Horne, acting Ranger.
 7. Chaco Canyon---Crownpoint, New Mexico. Thomas C. Miller, Custodian; Homer F. Hastings, temporary Ranger.
 8. Chiricahua---Willcox, Arizona. Frank L. Fish, Custodian; Orvel Ollinger and Bronson Harris, CCC guides.
 9. El Morro---Ramah, New Mexico. E. Z. Vogt, Custodian.
 10. Gila Cliff Dwellings---Cliff, New Mexico. No Custodian
 11. Gran Quivira---Gran Quivira, New Mexico. George L. Boundey, Custodian.
 12. Hovenweep---Cortez, Colorado. No Custodian.
 13. Montezuma Castle---Camp Verde, Arizona. M. L. Jackson, Custodian; Curtis Cox, acting Ranger.
 14. Natural Bridges---Blanding, Utah. Zeke Johnson, Custodian.
 15. Navajo---Kayenta, Arizona. John Wetherill, Custodian; Milton Wetherill, Ranger-Historian.
 16. Pipe Spring---Moccasin, Arizona. Leonard Heaton, Acting Custodian
 17. Rainbow Bridge---Rainbow Lodge, Arizona. No Custodian.
 18. Saguaro---Tucson, Arizona. No custodian.
 19. Sunset Crater---Flagstaff, Arizona. J.W. Brewer in Charge.
 20. Tonto---Roosevelt, Arizona. Woodrow Spires, Ranger.
 21. Tumacacori---Box 2285, Tucson, Arizona. Louis R. Caywood, Custodian.
 22. Walnut Canyon---Flagstaff, Arizona. Paul Beaubien, Ranger.
 23. White Sands---Alamogordo, New Mexico. Tom Charles, Custodian.
 24. Wupatki---Flagstaff, Arizona. J. W. Brewer, Ranger.
 25. Yucca House---Cortez, Colorado. No custodian.
-

CONDENSED REPORT

Coolidge, Arizona
September 1, 1936.

The Director
National Park Service
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for July:

TRAVEL

	<u>August, 1936</u>	<u>August, 1935</u>	<u>August, 1934</u>
Aztec Ruins	2,658	2,250	2,184
Bandelier	3,180	2,475	2,125
Capulin Mountain	4,500	---	7,000
Casa Grande	1,487	1,376	1,376
Chaco Canyon	1,272	1,031	1,014
Canyon de Chelly	169	135	---
Chiricahua	906	958	1,102
El Morro	470	333	605
Gran Quivira	730	385	365
Montezuma Castle	1,578	1,910	1,654
Natural Bridges	72	120	50
Navajo	---	140	83
Pipe Spring	105	256	250
Sunset Crater	1,231	1,216	---
Tonto	324	360	---
Tumacacori	1,037	906	641
Walnut Canyon	2,034	2,047	1,910
White Sands	18,753	7,013	---
Wupatki	436	290	190
Actual Reported			
Registration	40,942	23,215	20,549

Travel in the Southwestern Monuments showed a tremendous gain in August, 1936, over the same month last year. The increase for the most part is due to large travel figures at Capulin Mountain and at White Sands; the former, reporting 4,500 visitors, failed to send in a report last year, and White Sands, which has become a favorite spot for large picnics and celebrations of every sort nearly tripled the 1935 count. Travel at the other monuments in the Southwest has remained about at the same level as last year, some stations showing a decided gain in visitors while others have lost a little in the totals.

CONDENSED REPORT (CONT.)

000 GENERAL

021 WEATHER

Rains have been general over the entire Southwest during the past month; although many approach roads to the various monuments are badly washed and rutted, apparently none are impassable. Fire hazards at the timbered reservations have been reduced to a minimum, with a consequent abandonment of fire lookouts. Only one fire occurred in the monuments during the fire season just over, and that was a very small blaze at Bandelier late in May. Range conditions for the most part are excellent, especially at the monuments which are fenced. Altogether, the weather reports of custodians have a much brighter aspect than they had for July.

100 ADMINISTRATION

123 INSPECTIONS BY NATIONAL PARK SERVICE OFFICERS

Gran Quivira - Adrey Borrell; W. H. Wirt; H. B. McDougal; W. Ward Yeager.
Canyon de Chelly - Ned Burns; Dale King; J. B. Hamilton.
Chiricahua - George Keller; W. H. Wirt; H. B. McDougal; W. Ward Yeager.
Pipe Spring - Al Keuhl
Walnut Canyon - Dale King
Chaco Canyon - Ned Burns; Dale King; Johnwill Faris, A. E. Underhill; J. B. Hamilton.
Bandelier:- Ned Burns; Dale King; Chuck Richey; Harry Thompson; Herbert Malloy; Lyle Bennett; A. E. Underhill; A. B. Stevens; Conrad Wirth; H. H. Cornel; Dick Sias; Al Jeuhl; J. E. Kell.
Aztec - Herb Laier; George Collins; Chuck Richey; Jim Hamilton; Russel Grater.
El Morro - Dick Sias; Jim Lloyd; Milo Christiansen.

125 OTHER GOVERNMENT OFFICERS

White Sands - U. S. Senator Hatch; U. S. Senator Chaves; Congressman Thomason; Governor Clyde Tingley; Judge Joseph McGill; Collector of Customs Adrian Pool.
Aztec - U. S. Senator Frazier of North Dakota.
Chaco Canyon - W. M. Beatty and C. M. Blair of USIS.
Chiricahua - Charles Cochran and Martin Buzan of Shrub Invasion Survey.

200 MAINTENANCE

Capulin - Road to summit of mountain in excellent condition due to recent maintenance work.

Canyon de Chelly - Rains during the month washed out portions of the White House Trail. The trail is now being re-sloped and drained.

CONDENSED REPORT (CONT.)

210 MAINTENANCE, UNUSUAL (Cont.)

Canyon de Chelly (Cont.)

Because inadequate drainage which permitted water to gather around the custodian's residence, a bar pit was dug around the house, and dirt recovered from the excavation was thrown on the house side in order to raise the elevation of the ground surface.

Casa Grande - Heavy rains on July 28 caused the temporary sewage sump to cave in. This necessitated four man-days of work to repair.

Wupatki - A heavy rain on August 11 caused damage to trails and dirt roofs. The damage has been repaired.

230 NEW CONSTRUCTION

Canyon de Chelly - New pump house practically complete, concrete roof slab ready to be poured.

Aztec - Parking area and trails 100% complete.

Chiricahua ECW -

1564 feet of new trail constructed

Foundations poured and stone walls constructed to height of three feet and water and sewage connections made on headquarters ranger station.

Excavations for equipment shed begun.

Bandelier ECW -

Construction of Museum Cases started

Quarters #2 completed and ready for occupancy

Wall and roof construction completed on residence area equipment shed

Ditching of residence area to prevent wash by flood waters completed.

Construction of root cellars started

Crew at work filling orders for carved wood signs

Some landscaping around the headquarters area.

300 ACTIVITIES OF OTHER AGENCIES IN THE MONUMENTS

320 COOPERATING GOVERNMENT AGENCIES

Casa Grande - The Indian Service tied the monument in to the 60-cycle AC line which runs along the south boundary. This connection has enabled the custodian to disconnect the two small power plants which have been used to generate electricity heretofore.

Chaco Canyon - The Soil Conservation Service suspended all operations on the Monument on July 23 with their work 90% complete. Before the camp broke up flood and rain waters had destroyed their construction to such an extent that repair work, if attempted, will take several months. At present the problem has not been settled.

320 COOPERATING GOVERNMENT AGENCIES (Cont.)

Chaco Canyon (Cont.)

The University of New Mexico Summer Camp nearly completed the excavation of two small ruins on state lands near the monument boundary. This work started in 1934 but was not continued until this year.

350 DONATIONS AND ACCESSIONS

Chiricahua - Douglas Chamber of Commerce and Mines donated a large loose-leaf binder for the registration sheets.

Headquarters - Several books (all government publications) were received for the library.

Two small archeological collections

One small collection of photographs taken between 1896 and 1901

400 FLORA, FAUNA, NATURAL HISTORY.

430 ARCHEOLOGY

Wupatki - Custodian found a hitherto unreported "ball court" a short distance from the Citadel group of ruins

Chaco Canyon - Heavy rains have done much damage to walls of Pueblo Bonito and Chetro Kettl this month - Mural Room ^{III} in Chetro Kettl has been completely roofed in an attempt to conserve this outstanding bit of prehistoric wall painting.

440 INSECT CONTROL

Bandelier - Web worm control this year has been very effective.

Casa Grande and Chiricahua - Studies are being made to determine the nature of insect pests which are infecting the trees at these two monuments.

460 BIRDS

Tumacacori - Banded twenty birds during the past month.--Other bird banding stations did not attempt to trap because of the large quantities of natural feeds which the birds prefer.

470 ANIMALS

The Department of Zoology of the University of Michigan has identified the following rattlesnakes from specimens.

Chiricahua - *Crotalus molosus molosus* - Black tailed rattlesnake
Crotalus lepidus klauberi - Green rock rattlesnake

Casa Grande - *Crotalus scutularus* - Mohave rattlesnake.

CONDENSED REPORT (CONT.)

500 USE OF MONUMENT FACILITIES BY THE PUBLIC

530 IMPORAIANT VISITORS

A large number of prominent scientists, principally archeologists, and student study groups have visited the Southwestern Monuments this summer.

600 PROTECTION

620 FIRE PROTECTION

Chiricahua - CCC camp spent 25 man-days fighting a fire on the Coronado National Forest.

650 SIGNS

Boundaries of the monument are inadequately marked, which will affect the protection of deer and turkey during the approaching hunting season.

900 MISCELLANEOUS

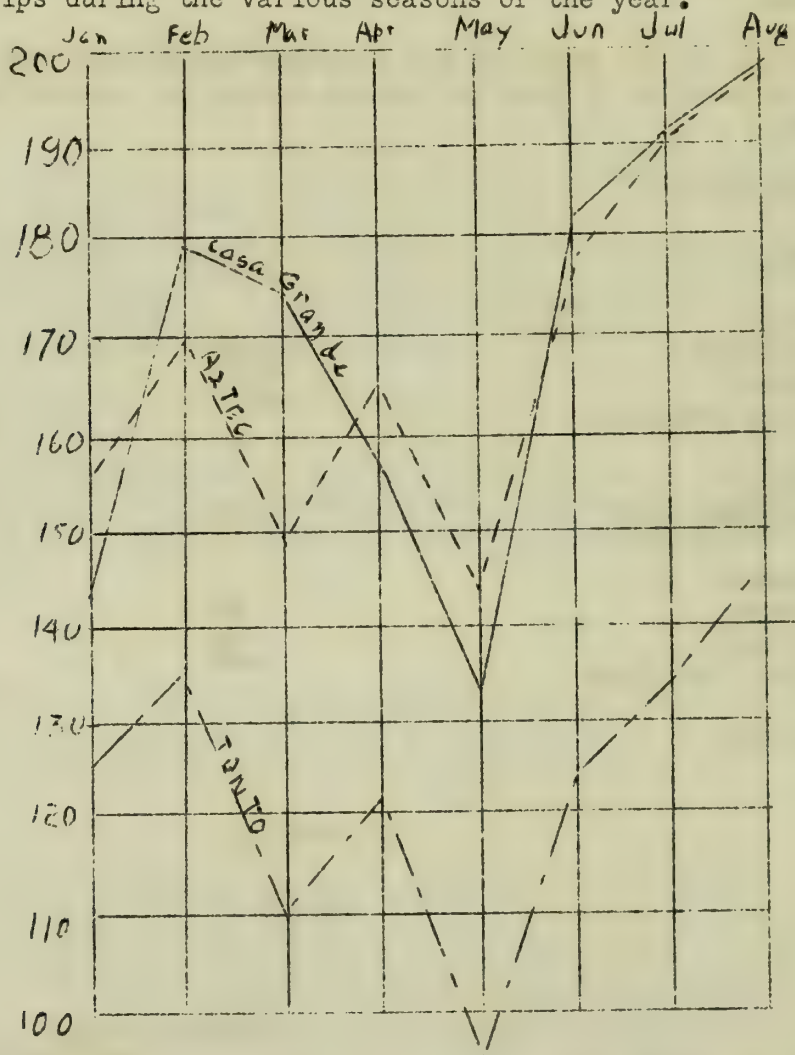
MAIL COUNT

Incoming:		
Government	1,605	
Personal	617	
Total incoming		2,222
Outgoing:		
Government only	1,737	1,737
Telegrams:		
Incoming	38	
Outgoing	35	
Total telegrams		73
Grand Total		4,032

Cordially,

Frank Pinkley,
Superintendent.

Something which might prove to be very interesting turned up this month in a study of visitor contact figures for three widely separated monuments. At Casa Grande, Tonto, and Aztec, where both ruins trips and museum lectures are given, a perfect visitor contact for any given month should be 200%; i.e., one ruins trip plus one museum lecture for every visitor. A percentage of that sort, of course, is impossible, nor do we expect it, but in running out the visitor figures for the three monuments in question, a striking similarity in curves was noted. All three stations show a low point in visitor contact for May and a high in August. A check will be kept for the remainder of the year in order to ascertain whether the curves will retain their similarity. We are at a loss for the explanation so far; two reasons have been suggested, either a general let-down on the part of the rangers or a decided change in type of visitor during the late spring. The graph lines are too similar to suggest a coincidence and here at headquarters we feel that we might be on the trail of an interesting study in visitor reaction to guided trips during the various seasons of the year.



BANDELIER

By Jerome W. Hendron, Acting Custodian

Visitors:

Visitors numbered 3,180, arriving in 832 cars from 35 states, district of Columbia, and Territory of Hawaii.

The six highest states in order by visitor count were: New Mexico, 739; Oklahoma, 404; Texas, 378; Kansas, 199; Missouri, 112; and Illinois, 109.

Attendance increased 1,018 over last month, or 47%, and increased 705 over August, 1935, or 28%. This is a new travel record for Bandelier being heavier than any previous month.

A total of 21 people from foreign countries visited the Monument this month; they were from England, France, Germany, China, and Guatamala.

One hundred twenty-four return visitors were also counted.

Weather and Roads:

Days partly cloudy:	24	
Days cloudy-----:	2	
Maximum Temp.-----:	88	August 12.
Minimum temp.-----:	56	August 21.
Mean Maximum-----:	81	
Mean Minimum-----:	59	
Precipitation-----:	.73	against 4.63 for August, 1935.
Rain and sleet---		July 28, 30, August 2, 3, 4, 5, 6, 7, 10, 14, 15, 18, 19, 20, and 21.
Dust storms-----:	None	

We can't complain about the weather this month since the average temperature was slightly lower and more pleasant than the rest of the summer months. The heaviest precipitation came on August 18, with a total of .21 inch, beginning at 6:15 p.m. and ending sometime during the night.

The roads have been corrugated in spots due to the heavy rains on the Ramon Vigil Grant and in the Detached Section. Santa Fe and vicinity have experienced some heavy downpours this month washing out several spots in the highway leading to Bandelier around the neighborhood of Pojoaque where the Pojoaque and Tesuque arroyos cross the road. Several cars have gotten stuck in these washes and lives have been in danger within the last week due to the fact that inexperienced persons living outside of New Mexico never know when an additional wall of water will descend upon them.

Visitor Trip Chart:

Two-hundred thirty-six parties took guided trips through the ruins, or were given short individual lectures, numbering 1,928 people. The average time per party was 71 minutes including the short individual lectures. Two-hundred twenty-two parties took complete ruins trips, making a total of 1,887 people; forty-one were given short talks or 14 parties in all averaging 21 minutes per party. Our largest single party for this month numbered 59 on August 9.

Special Visitors:

Ned Burns, Chief of the Museum Division was in for a few hours with Dale King on July 25. August 1 - Dr. E. B. Renaud of Denver University brought a group of his students in for a visit. August 5 - Karl Ruppert from the Carnegie Institution spent a few hours in the canyon. Mr. Ruppert has recently returned from Central America where he has been working with the Maya cultures and is now at the Laboratory of Anthropology in Santa Fe writing up reports. August 7 - Dale King returned to spend some time in the preparation of the Museum for Bandelier. August 8 - Chuck Richey dropped in with Harry Thompson, Assistant Chief Architect out of the Washington office. Herbert Maloy and Lyle Bennett from the Regional office in Santa Fe accompanied them.

August 9 - Dr. Frederick Webb Hodge, Director of the Southwest Museum in Los Angeles took one of our guided trips. Engineer Underhill of the San Francisco office was in for a few hours on business. August 12 - Chuck Richey, Lyle Bennett and Herb Malloy from the Regional office in Santa Fe were out on inspection. August 14 - A. B. Stevens, Museum Technician from Washington dropped in for a few minutes en route to San Francisco. August 15 - Assistant Director Conrad L. Wirth visited Bandelier en route to Mesa Verde. Accompanying him were H. H. Cornell, Regional Landscape Architect from Oklahoma City, R. W. Sias, Administrative Inspector of Arizona, A. L. Kuehl, Resident Landscape Architect at Grand Canyon, and Chuck Richey and J. E. Kell of the Regional Office in Santa Fe.

General:

Dale King has been in this month on Museum preparation and it looks as if we are actually getting under way. It is going to be a long tedious process but Rome wasn't build in a day, nevertheless, it is going to be most interesting and very fascinating work.

The canyon folks were taken by surprise the latter part of July when Ranger Peterson brought himself home a wife. We wish them the best of luck.

We miss Bill Sharpe around here and wonder if he wishes he were back

BANDELIER (CONT.)

here where it is nice and cool. There is just a slight touch of fall in the air and the leaves on the trees are showing a slight tinge of yellow so it won't be long until winter is here.

Our class in Anthropology is coming along famously, 13 students having shown up the first night. The boys seem to be very interested in the subject and I think they are all willing to learn. Now and then we see some familiar faces there, such characters as Jim Fulton and Mr. Read; the more the merrier.

BANDELIER FORESTRY

By James Fulton, Forestry Foreman

Web Worm Control:

In my report for July, 1936, I gave an account of spray control of the web worm infestation in Frijoles Canyon. At this time I am able to conclude that the spraying was effective to a surprising degree. The infested trees suffered little from defoliation after they were sprayed. However, I am inclined to believe that wet cold weather played a part in holding the worms in check. The sprayer itself worked better this year, mainly because the pulling shafts were reinforced so that no time was lost as a result of the shafts breaking. However, we still experienced difficulty in spraying seventy-five foot cottonwoods with a forty foot spray stream.

Forest Fires:

So far this year we have had only one fire which was previously reported. Fire hazard is at a minimum because of 3.82" precipitation in July and .73" in August.

BANDELIER ECW

H. B. Chase, Project Superintendent

Construction of Museum Cases under the Furniture Project was started this month. One case has been completed to the point of satisfaction for observation as to the installation of exhibits during the recent stay of Junior Park Naturalist Dale King. This case construction will continue to proceed in accordance with case plans now approved.

Final interior decorating is being completed at this time on Quarters No. 2 which now brings this building to a point for occupancy. It is expected that the Acting Custodian of this Monument will occupy this building.

All wall and roof construction has been completed on the Equipment

Shed Project, located in the residential area. Crews are now laying the flagstone floors completing study partitions plumbing, and electrical outlets in preparation to plastering and interior decorating within the next week. This building will afford housing for personal cars owned by occupants of the residential area, and also includes two living rooms with connecting bath for a temporary and visiting employees of the Service.

Additional work under the project of excavation, channels, and ditches has been carried on through the month. Principally in the headquarters and residential areas, which have been subject to flood waters during the summer rains. Completion of this work around these areas will be of material help in eliminating the water damage at our newly constructed projects.

Excavation and a portion of under-pinning work at Quarters No. 1 has started our Root Cellar Project for the Quarters in the residential area. Recent approval of plans for root cellars has allowed the project to be started within the next week and will proceed as quickly as possible for the two finished quarters.

Receipt of approved sign design and alphabet from the Branch of Plans and Design has allowed us to proceed at full speed with a number of accumulated sign orders. A much larger crew than heretofore used in the carving and constructing of signs is now at work in an attempt to clean up the orders we now have for signs for the Southwestern Monuments.

The usual work crew at the rock quarry has been in progress all month preparing the building stones for construction of buildings projects, that they may go forward as fast as approved plans are received.

Some small planting and landscape work has been carried on in conjunction with excavation, channels and ditches project in and around the parking plaza. .

CHACC CANYON

By Thomas C. Miller, Custodian

General

The approach roads to the monument have been in fine shape most of the month. The roads have been maintained both north and south. However, we have had some heavy rains, and in some places the roads would be badly damaged. Several cars have been in the ditches overnight in both directions, but I believe that was caused by high water or by trying to travel the road during the rain. The worst damage during the month was in the monument and was caused by heavy rains

CHACO CANYON (CONT.)

washing our roads away on the rock hill and by the diversion dikes on the canyon floor that were built by the Soil Conservation Service centralizing the water, then breaking and causing new arroyos to be made across our roads.

Travel

1,272 people entered the monument in 348 automobiles coming from 30 states, the District of Columbia and Hawaii. Foreign countries: Mexico and Peru.

Weather:

Maximum for the month was 96 on the 17th. Minimum was 52 on the 21st. Precipitation for the month was 2.58. The greatest in 24 hours, .90 inch, was on the 4th.

Special Visitors:

Dale S. King, Junior Park Naturalist, Southwestern Monuments, and Mr. Ned Burns from the Washington office arrived July 23 and departed on the 24th. Dale broke the axle or something on 1800 which had to be towed to Gallup for repairs while I took Ned and Dale to Santa Fe and Bandelier National Monument. Custodian Faris and A. E. Underhill from Aztec Ruins visited a good monument on the 26th. Mr. W. M. Beatty, Director of Education USIS, Washington, D. C., and his assistant, Mr. C. M. Blair, Windowrock, Arizona, were monument visitors on July 27. Mr. William H. Jackson, who visited the Chaco in 1877, was an interested and interesting visitor on the 29th. Associate Engineer and Mrs. Jim Hamilton Arrived August 6, and departed on the 7th. Mr. Hamilton measured our Chaco bridge, the rock hill, and went over many other things in the way of new construction that we hope to get started soon. Dean Cummings and his archeological field school, University of Arizona, arrived on the 8th and departed on the 10th. The Carlsbad Caverns was well represented this month by Mrs. J. E. Woodrow and party on the 13th.

Range Conditions

The grass and shrubs are showing greater growth this summer than ever before. Chaco has begun to look like a place where thousands of people might have made their living by agriculture a thousand years ago.

Soil Conservation Service:

This Service suspended all operations in this monument July 23. The project was considered to be 90% complete. The other 10% was to have been the driving of some piling in the Chaco Wash near the ruins of Del Arroyo for revetment purposes. However, before the camp departed August 4, all the work in Hungo Pavi canyon washed away. This was followed by

CHACO CANYON (CONT.)

a 7½-foot rise in Chaco Wash which badly damaged all of the revetment work around the ruins of Del Arroyo and Kin Kletsoi. It also wrecked several diversion dikes on the canyon floor. At this time it is not known by this office what their plans are, but it is believed that it will take several months with a large crew of men to replace the damage done by the flood waters during the first four days in August.

Ruins Repair:

Much damage has been done to the ruins of Pueblo Bonito and Chetro Ketl during the month because of the heavy rains mentioned elsewhere in this report. The Mural Room No. 1, Chetro Ketl, that was recently excavated by the research group has been completely roofed. The first and second story (round wall) near the two corner doorways in the southeast section of Bonito collapsed and is now being repaired. A complete report with pictures will be mailed to your office when the job of restoring the wall has been completed. However, we will not have the money to provide proper drainage for this wall at this time. This is believed to be one of our best walls and it is hoped that we can do something about drainage in that portion of the ruin.

Activities of other Agencies in the Monument

The University of New Mexico is excavating a small ruin on Section 13, just a short distance east of Casa Rinconada. This ruin is about 90% complete. Also a small ruin up the canyon southeast of Chetro Ketl is being excavated. The latter is known as the Bertha Dutton Dig. The work on this ruin is about 80% complete. This work was started during the summer of 1933. It was continued in 1934 but not in 1935. Because of these complicated surveys, I am not in a position to say what section of land it is on. I am including in this report for future reference a list of the names of the faculty and students of this school.

AZTEC

By Johnwill Faris, Custodian

I have been waiting a long time, Boss, to report a banner month of all times, and this is the month. August, 1936, beats any month in the seven years that I have served here, with 2,658 visitors for the month. Not only was it a big month from the visitor standpoint but it will long be remembered as the month that we finished the parking area and constructed our trails, thus making it possible for us to present the most pleasing approach in the history of the Monument. Under the able supervision of A. E. Underhill, a most excellent job of paving and walk construction was accomplished. It has been my pleasure to have worked with many experts from the various departments and as usual Mr. Underhill was most cooperative and it would be considered an honor to work with him in any future construction along his particular line.

CHACO CANYON (CONT.)

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CHACO CANYON (CONT.)

a 7 $\frac{1}{2}$ -foot rise in Chaco Wash which badly damaged all of the revetment work around the ruins of Del Arroyo and Kin Kletsoi. It also wrecked several diversion dikes on the canyon floor. At this time it is not known by this office what their plans are, but it is believed that it will take several months with a large crew of men to replace the damage done by the flood waters during the first four days in August.

Ruins Repair:

Much damage has been done to the ruins of Pueblo Bonito and Chetro Ketl during the month because of the heavy rains mentioned elsewhere in this report. The Mural Room No. 1, Chetro Ketl, that was recently excavated by the research group has been completely roofed. The first and second story (round wall) near the two corner doorways in the southeast section of Bonito collapsed and is now being repaired. A complete report with pictures will be mailed to your office when the job of restoring the wall has been completed. However, we will not have the money to provide proper drainage for this wall at this time. This is believed to be one of our best walls and it is hoped that we can do something about drainage in that portion of the ruin.

Activities of other Agencies in the Monument

The University of New Mexico is excavating a small ruin on Section 13, just a short distance east of Casa Rinconada. This ruin is about 90% complete. Also a small ruin up the canyon southeast of Chetro Ketl is being excavated. The latter is known as the Bertha Dutton Dig. The work on this ruin is about 80% complete. This work was started during the summer of 1933. It was continued in 1934 but not in 1935. Because of these complicated surveys, I am not in a position to say what section of land it is on. I am including in this report for future reference a list of the names of the faculty and students of this school.

AZTEC

By Johnwill Faris, Custodian

I have been waiting a long time, Boss, to report a banner month of all times, and this is the month. August, 1936, beats any month in the seven years that I have served here, with 2,658 visitors for the month. Not only was it a big month from the visitor standpoint but it will long be remembered as the month that we finished the parking area and constructed our trails, thus making it possible for us to present the most pleasing approach in the history of the Monument. Under the able supervision of A. E. Underhill, a most excellent job of paving and walk construction was accomplished. It has been my pleasure to have worked with many experts from the various departments and as usual Mr. Underhill was most cooperative and it would be considered an honor to work with him in any future construction along his particular line.

AZTEC RUINS (CONT.)

We take this opportunity to thank him officially for a job well done and also for hours of pleasant association in transacting the necessary official business.

We started this month off with a bang by presenting our Ruins to the Regional Director and his assistant. On July 31, about eleven thirty at night Herb Maier, George Collins and Chuck Richey dropped in on us and we spent a most pleasant hour with them. It was nice to have them and when we remember that Mr. Maier was instrumental in getting all the work from the ECW, especially our sewer system, it was an added pleasure to show him about. Underhill had the walks all laid out for Chuck Richey and it was a grand visit even though it was in the middle of the night. They are invited to stop off with us again. Jim and Mrs. Hamilton were right on the heels of this party and then a few days later they stopped off again on the way back to Santa Fe. Not to be outdone by other divisions, Mr. and Mrs. Russell Grater from the Wildlife Division were in for a few minutes, and then to top off our official list none other than the one and only Gay Lovell, Mr. and Mrs. Lovell stopped off on their way back from their vacation. We spent a few minutes of mighty pleasant memories, etc., especially since this is where Dick met the Mrs. I almost put Gay to work again since I lost my ranger this month. Of all the months to loose a ranger it would be August.

Mr. Hart left our employ August 3 and is trying his luck again at selling life insurance. He finds that selling ruins to the tourist is not as paying as selling life insurance and he returned to South Carolina. We lost an excellent contact man in Bert and we hated to loose his services; any way we wish him the best of luck. In view of his leaving we have been fortunate in securing temporarily the services of Oscar Tatman. Mr. Tatman has been with us before and then too having worked a number of years with Earl Morris he is a most valuable man, and has certainly been a life saver this month.

In addition to Park Service officials we have had some especially interesting parties. On August 10, Dean Cummings and a group of Arizona students were in with us and spent the night in the Great Kiva, a few days later Mr. Brown and a group of German students from the old country were in and they too spent the night in the Great Kiva. Both of these groups were very mannerly and we enjoyed them very much. We like the detail that these groups require, it keeps us on our toes. On August 18, Senator Frazier of North Dakota was in with some Interior Department officials. Senator Frazier was very interested even though he had heard Indians all day in attending and conducting an investigation of the Navajo problems. We notice on the register several who did not make themselves know. Bureau of Standards, Washington, D. C., Department of Agriculture, Washington, D. C., etc. We wish it were possible for us to contact more closely the visitors we have, but with two guides, or at best, three, it is impossible to show twenty-five hundred through

AZTEC RUINS (CONT.)

in thirty days and know very many of them. It would be grand if we could limit each party to six or eight but that is impossible so we do the best we can.

We are closing this month, Boss, getting ready for even greater numbers for the first week of September. The Gallup Ceremonial and celebrations in Durango and Santa Fe, with all the Indian dances, will keep visitors and tourists going through in large numbers. With one of our best months as history, I pass on to another and bid the gang, adios.

MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Another hot month has passed and we are all still alive and able to pull up to the table and take on a bit of nourishment. Have been complaining with the visitors about the hot weather this month and am convinced that it works better than to mention the fact that some other places in the world have hot weather.

Our registration book shows that we have had 1,578 visitors for the month, with 858 climbing the ladders. 37 states and 4 foreign countries being represented. The first part of the month fell behind July, but the last half picked up a bit and we had a few more than for the month of July. We can not expect to have a big run of visitors as long as the highway is torn up as it has been during the past summer, meaning State Highway 79 between Clarkdale and Jerome. One is on a detour all the way between the two above mentioned towns. And we have had many complaints during the past month.

C. B. Cosgrove the well known archeologist of Cambridge, Mass., was a visitor during the month; Mrs. Cosgrove accompanied him.

On the 29th we had 54 of the boys from the summer camp of the Iowa State College. They are at present encamped at Mormon Lake. We found the boys very gentlemanly and we enjoyed their visit.

Some 30 boys from the Pacific Cost Military School were also in to see us during the month. They are encamped on Oak Creek near here. They were rather young and inexperienced but were not at all bad. We invited them to come back and see us another year. I am still strong for selling the parks and monuments to the youngsters; once they are sold on an idea they stay sold. While the older ones are quite liable to forget unless they are very strongly impressed.

Earl and Betty Jackson came in to see us on the 2nd. Needless to say, we were glad to see them and to have them with us for at least awhile. Believe Earl is improving and believe he will make the grade if he doesn't get so mean and cranky that Betty kills him off.

We have had a couple of light showers during the month, but has been so dry that half of the leaves have fallen off the trees here on the monument. Quite a few of the trees have died, and we just about the same as have no shade in front of the museum.

We find on checking our registration for the past month that 61 percent of our visitors were from out of state, which is more than usual for a hot summer month.

TUMACACORI

By Louis R. Caywood, Custodian

During the month 912 visitors were contacted and conducted through the Mission. An additional 125 used the facilities, making a total of 1,037 visitors to the monument. These visitors represented 33 states and 5 foreign countries - Mexico; Canada; Transvaal, South Africa; India; and Italy.

Luis Gastelum was our only visitor from Headquarters this month. Luis Stopped in to see how we were getting along before leaving for the Coast on his vacation and again on his return. He mentioned that he had visited some of the California missions while vacationing. We expected a visit from the Boss and Tov and heard several times that they were practically here, but so far we are still waiting.

On August 2, 128 CCC boys from Camp F-30-A near Tucson were Mission visitors. That day, by the way, was a pretty big day with 253 people paying us a visit.

Although this is the rainy season there has been little rainfall on the monument. We have only had about two hard rains which came early in August. The rains are spotted and have fallen mostly at other places in the vicinity. Nogales and Tucson have both had a number of heavy rains during the month. However, we are thankful for what we did get as it helped lots. Our little mesquites are really beginning to look like trees now.

The recent information that an appropriation has been approved by the Secretary of the Interior for a combined Museum and Administration Building has been well received by local people and, needless to say, by us also. We have already been beseiged with questions as to when, where and how the building were to be built.

Following the announcement in the Tucson Daily Star, the Editor, Mr. W. R. Mathews, published the following editorial:

(Arizona Daily Star, August 10, 1936)

"Announcement of government funds for preservation of the Tumacacori mission holds promise of one more reminder that the men who settled the Southwest did a great work. Here is a Spanish mission, monument to the men whom Spain, in her hour of greatness, sent into the new world. But if truth were told it should be called a Mexican mission, for its work and the work of others like it was the welding of two mighty peoples which created modern Mexico.

"Many of the residents of Southern Arizona are newcomers. Men and women who have all their roots in the east, whose ancestors came into the United States by a route different from that of the original settlers of the Southwest and from different countries, too often to not appreciate the breadth and scope of the forces which built this part of the country.

"Until these people secure some appreciation of the Mexican background they must remain aliens in the Southwest which was, after all founded and built by Mexicans. These alien minds come from ancestors who settled in wild and untamed country inhabited by savage peoples who formed only one more handicap to the settlers.

"When the Spanish entered Mexico and the Southwest they found quite different conditions. The country was inhabited by highly civilized and cultured peoples who were, in many respects, farther advanced than the settlers. Instead of pushing aside native populations, they were forced to live among them where native influences had their way despite efforts of the conquerors to eliminate them.

"Pushing their way to the outer boundaries of the high Mexican cultures, the conquistadors found still other peoples. The Pima and the Papago of Southern Arizona were not least among these. Hence the missions. Here in far-flung outposts of European influence, the process of amalgamation and union of peoples and of cultures was carried forward. It is still going on despite the vast influx of alien hordes involved in the change of political control for this portion of the country.

"Actually, the recent alien influx is a third influence entering the country. Here is another people to add its quota to the total heritage of the desert country. The desert has absorbed the influence of the great Indian civilizations. The wave of new influence from Spain spread over it and was in its turn absorbed. Now comes a new alien race, often expressing in its ignorance the same type of scorn and impatience with the ancient populations which the Spaniards expressed in their day.

"Such an attitude is absurd. Whether we will or no, those of us

TUMACACORI (CONT.)

who intend to remain in the Southwest are one people who must and will go forward as a unit, not as separate groups. Tumacacori, with its memories of that process in former days holds a potent lesson. Let it not be ignored.

"In those old, crumbling walls, in the hot desert plains which surround them, in the rich tradition and legend which has come down to the present, is a story which should be learned by all who aspire to become a part of the Southwest. The process which went on in Tumacacori is going on today on the bustling streets of Tucson.

"In the liquid cadences of the Spanish tongue, in the lilting measures of native music, in the sturdy workers and business leaders who trace their heritage back to those who made Tumacacori possible, Tucson has its tradition and its background. The alien can come as a friend, adding his own store of tradition and beauty and adapting himself to the place as he finds it. Or he can come as a foe, scorning and attempting to destroy what is here, only to find in the end that he himself has become a part of what he scorns.

"How much better if the friendship can be maintained. By all means let Tumacacori stand as something which will tell us in walls more lasting and potent than words what such friendship can mean."

I recently received four carved rest room signs from Mr. H. B. Chase which were made at the CCC Camp at Bandelier. I must say the boys certainly make attractive signs. They harmonize very well with the wood of the entrance gates.

Birds banded during the month include the following:

Pyrrhuloxia	5
Arizona Cardinal	4
Cowbird	1
Inca Dove	1
Palmer Thrasher	1
Canyon Towhee	4
House Finch	1
Mockingbird	2
Lazuli Bunting	1
Total	<u>20</u>

Bird banding will be suspended until winter because the native food supply of grasshoppers, worms, seeds, etc., is too plentiful. The birds refuse the most tempting of baits set out for them at present.

T O N T O

By Woodrow Spires, Ranger-in-Charge

This report brings to a close a typical summer month, with nothing out of the ordinary happening (not even a towel inspection).

Old man weather has been behaving very nicely. No really hot days this month which was probably due to the numerous showers and two hard rains which made the entrance road all but impassable.

The visitor count for the month shows an increase of 12% over last month but a decrease of 12% over the same period last year. The following figures were derived from SWM Stencil No. 16:

Total visitors to the monument -----	324
Total time guiding -----	5,055 Minutes
Total visitors taking field or ruins trip---	203
Total number of field or ruins trips-----	72.90 "
Average group field or ruins trip -----	4.06
Total visitors museum trips -----	273
Total museum trips -----	65
Total time museum trips -----	1,410 Minutes
Average group museum trip -----	4.20
Average time museum trips -----	21.53 "

This month 62% of the total visitors climbed to the ruins against 59% for the corresponding period last year.

I saw Earl Jackson in the early part of the month and thought how well he is displaying that courage it has taken and takes to build up the Southwestern Monuments. Earl was smiling and said he would be back at the best monument in the Southwest in six months even though the doctors say at least a year. He is a good example of how the boys can take that unexpected blow on the chin, then come back and win their fight.

Three times on the days I have been away from the monument some one has entered the ruins and things have disappeared including three manos and three signs.

Since bringing home the boxes to ship snakes in there has been a noticeable shortage of snakes only three having been seen, two escaping and one being killed before I could come to his rescue.

Most of my spare time has been devoted to some mesquite stumps which I have been converting into stove wood.

WUPATKI

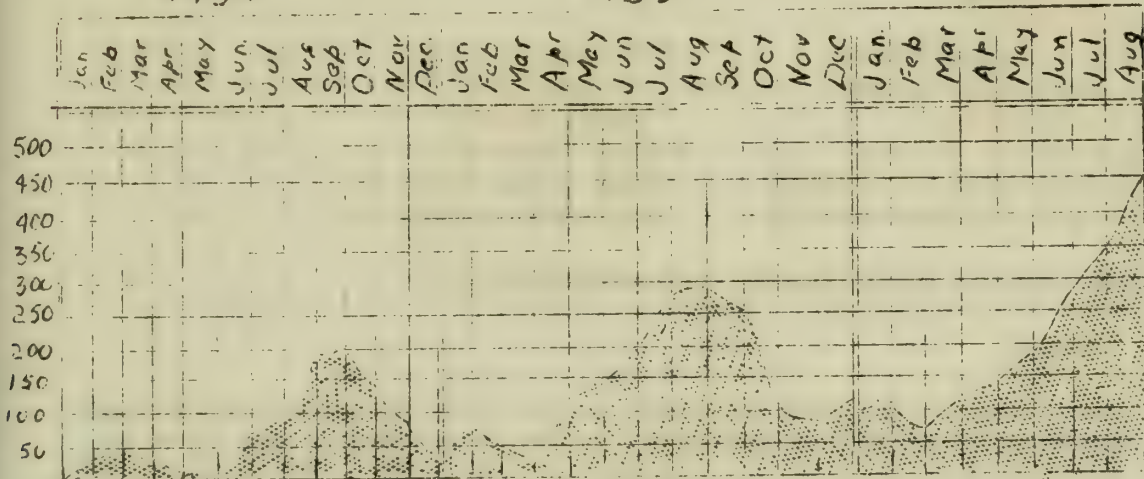
By James W. Brewer, Ranger-in-Charge

500 USE OF MONUMENT FACILITIES BY THE PUBLIC

1934

1935

1936



205 guests registered at Wupatki Pueblo; 279 at the Citadel Group; 48 names are duplicated, leaving an all-time high of 436 registered visitors to this Monument in August, 1936; 1935, 290; 1934, 190.

A single overnight camping party (from the Rainbow Bridge-Monument Valley Expedition). I believe the reduced number of campers to Wupatki can be explained by the increased popularity of house trailers, drivers of which do not attempt to reach the Pueblo. In the past three years I have seen only one house trailer come to the Pueblo and that a collapsible one.

Of the 41 parties to the Pueblo 38 were "contacted".

530 NEWSWORTHY VISITORS

On the first, 51 members of the Southwest Indian Bible Conference held a meeting in the amphitheatre, where, to the accompaniment of a portable organ and a trombone songs were sung and blessing asked. (Maybe it's a kiva) The group then adjourned to the exhibition grounds and enjoyed a picnic supper under the ramadas.

On the second six students from the Iowa State School of Forestry.

On the 9th a unit of the Rainbow Bridge-Monument Valley Expeditioners camped overnight; Dr. Charles del Norte Winning and Ben Wetherill were in charge.

On the 21st Dr. H. S. Colton brought Miss Bartlett, Mrs. Theodore de Laguna, and her daughter, Dr. Frederica de Laguna to the Pueblo.

WUPATKI (CONT.)

020 WEATHER

Days partly cloudy	3
Days cloudy	24
Days clear	4
Maximum temperature	100 (July 24)
Minimum temperature	57 (Aug. 22)
Precipitation	2.061 inches
Anemometer reading	4429.3 total miles
Maximum 24-hour reading	418.1 miles (July 24)
Minimum 24-hour reading	85.1 miles (Aug. 15)

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

201 UNUSUAL

A heavy rain at the Citadel Group on the 11th washed a hole through the roof of Room 1 in Nalakihi. I hauled a load of red dirt on the 12th and replaced that which had washed out. For several days the floor of this room was puddled.

I think a two or three inch fill should be made on this floor to raise it enough to meet the ventilator in the south wall and graded so that it will drain.

In Room 7 at the Pueblo I opened a channel to the ventilator to drain off standing water in this partially excavated and unroofed room.

The area below Room 49 has been badly cut by water. I constructed a ramp trail that eliminates the CWA stairway down which the damaging water gained force. The material used to construct the ramp was part of the unsightly back dirt southeast of the Pueblo. This pile has been considerably reduced. The balance should be spread and landscaped.

A new application of roofing was also put on Room 63.

400 FLORA FAUNA NATURAL PHENOMENA

430 ARCHEOLOGY

Observing fresh automobile tracks turning off the entrance road Sallie and I followed them to see where they led.

The tracks ended in a post-cut clearing which probably explained their presence; but to our surprise the "road" passed within 25 feet of a previously unrecorded "ball-court" less than three miles from the Citadel.

GENERAL

When the last report was mailed the Monument was burned brown and looked very dead. Today it's a "meadow"--as if by magic everything has come to life. The brush and grass are green and feed looks really good. Arrowhead Tank lacks only 18 inches of being full, and is holding more water now than at any time in its five year existence. Clyde's tanks near Wukoki are both full.

On the 27th we had just under an inch of rain at the Pueblo. Roads and trails, and roofs gave way to running water. We were kept so darn busy we wished we had a sea sea sea camp.

The Navajos have all left the basin and gone to Cameron for a dip (their sheep). This breather will give the range a good comeback.

SUNSET CRATER

By James W. Brewer, In Charge

1,231 folks registered at Sunset Crater this month, 1935, 1,216; 1934, no record.

The register was also signed by "Three jack-asses for trying to climb the mountain."

Paul says three elderly women told him they wrote the above line.

CAPULIN MT.

By Homer J. Farr, Custodian

In reporting activities of Capulin Mountain National Monument for August, 1936, the following is noted:

We have had 7,500 visitors during the last 30 days. This is based on the following: On last Wednesday, August 19, I was working where I could count every visitor and I counted 221 for the eight hours that I was there. I am confident that we are having as many as 250 average daily. I found people well pleased with their visits to the monument.

Weather has been very nice with three showers this month and only four days of real hot weather. All visitors speak in no uncertain tone praising the nice cool breezes we have here at the monument.

Road and trail repair has been active for about six weeks and the road and trails are in excellent condition. Many tourists tell me that they did not think it possible to get a mountain road so smooth as we have it now.

CAPULIN MOUNTAIN (CONT.)

As an experiment to get the real thoughts from some of our visitors to Capulin Mountain National Monument, one day this week I tore some slips of paper from a notebook I happened to have in the car and handed eight of them out to drivers of cars as they would pass where we were working on the road.

To each one I said exactly this: "If you care to, please take this slip of paper and write a few lines giving your impressions of the Monument and hand it back to me as you pass by."

All eight came back, and here they are:

Third trip up Capulin; better every time; roads best yet; glad trail has been put to bottom; made trip in high.

H. P. Vaughan,
Amarillo, Texas.

We found the roads excellent and workmanship of fine quality. The view from the Mountain gives a good view of the surrounding country and we think it is very educational.

Evelyn Patrick,
Woodward, Okla.

The scenic drive to top of Mt. Capulin is beautiful. The road is smooth and in good condition. Tho it seemed a little narrow to one not experienced in mountain travel, the view from the top is wonderful and the air extremely invigorating. The turn at the top is fine.

Alice Moyer,
Ponca City, Okla.

My impressions of the drive up Mt Capulin was first the well kept road and the neat and orderly arrangements of camp grounds which combined with the wonderful view gives you the feeling of being on top of the world.

Mr. & Mrs. R. D. Stewart
Ponca City, Okla.

We enjoyed the drive to the top of Mt Capulin very much and the road is in excellent condition.

Mr. and Mrs. L. E. Hollingsworth,
Tulsa, Okla.

Second trip here; very beautiful view; great road improvement over 1933.

H. E. Rodel,
Enid, Okla.

We enjoyed the trip very much. The view is great and the road is wonderfully fine.

Mr. and Mrs. M. H. Miller & Sons,
Enid, Okla.

CAPULIN MOUNTAIN (CONT.)

Mt Capulin, a worth while trip and every school child should visit this place.

Mrs. Geo. P. Williams,
Electra, Texas.

NATURAL BRIDGES

By Zeke Johnson, Custodian

I believe that this is the best report I have ever made. 197 visitors registered during August; in addition several parties arrived while I was out hiking or in Blanding after mail. Twenty-five states and Cuba are represented on the registration sheets.

The weather has been ideal except for two or three days of rain. Last Thursday night, the 20th, the most severe thunderstorm I have ever experienced blew up at two a.m. and lasted until four. We thought our tent would certainly be torn to pieces. Mrs. Johnson was very frightened and I'll admit that I was nervous too. The lightning struck several times within a few rods of our tent, and the thunder was so loud and severe that it made our heads ache. The floods in the canyon soon began to roar and next morning we saw that the water had run 22 feet deep down Armstrong Canyon by Edwin Bridge and in coming up the same canyon yesterday evening I saw that the head had increased as it went down for the heaviest rain was about one mile east of camp, then west for three miles. Talk about a torn up canyon!

There is hardly any trail between Edwin and Caroline Bridges. Several large trees have fallen across the trail and it will take several days before I can get it fixed so that people can travel it again. Water backed up under Caroline Bridge and left from two to ten feet of quicksand, it was hard for us to get through yesterday but a few days of sun will fix things up again. Due to the rains the flowers, grass and other vegetation have never been as beautiful at this time of year as they are at present.

There has been only one bunch of campers in the canyon this season; they camped under Caroline two nights with twenty-five head of horses. I had them take their horses down White Canyon so that the stock did not graze on the monument.

I must mention the damage done to the road, or trail, or the 'tumbling in' road to the monument. I had to shovel a lot of dirt on the two steep grades as they were badly washed. I cut a lot of limbs and stripped some cedar bark for a foundation to the road so that folks can get in and out again. I'll have to make up a list of the questions asked me about that road and the answers I give. Several parties have returned for a second or third trip this year, and of course, when they were here first I told them that the road would soon be fixed and in good shape, now they call

NATURAL BRIDGES (CONT.)

it the 'Tumble In'. I still believe that some day I will have a good road coming into the monument.

I am still happy and trying to put over the job.

WALNUT CANYON

By Paul Beaubien, Ranger-in-Charge

There were 2,034 visitors to Walnut Canyon National Monument this month, or 13 fewer visitors than for August last year. 1,662 visitors were contacted while 372 had to shift for themselves.

The two Park Service visitors of the month were "Doug" Harritt and Dale King. Doug came to Flagstaff to take a Civil Service examination, but if he didn't know more about Mound Builders than I, he was wasting his time.

Have had lots of rain since reporting last time, and there were several bad holes in the entrance roads. On approaching these holes, some visitors decided to drive around them instead of staying on the packed road. Several parties had to be extricated before I placed enough logs along the roads to keep the traffic where it should be.

Due to the rains, there were only nine overnight camping parties this month. Also, the rain destroyed the attractiveness of the water-baited bird trap, so no birds were banded.

Representatives of the Soil Conservation Service came to Walnut Canyon with a truck to get walnuts for seed. However, they only found six nuts in the canyon.

When looking at last year's report for travel figures, I noted a paragraph that could be repeated:

"While speaking of signs, I wish the monument boundary was properly marked. Deer season will soon be here and there are a few bucks left. Have had reports of turkeys on the south side of canyon. About the only protection that could be given them would be boundary signs."

CHIRICAHUA

By Frank L. Fish, Custodian

Weather

Dry conditions prevailed until the 18th and 19th when heavy rains occurred over the entire monument, amounting to 3 inches of precipitation

CHIRICAHUA (CONT.)

(measurement by Faraway Ranch), this made it possible to close Sugarloaf Lookout. The nearby Forest Service district had the benefit of more rain earlier and had removed their lookout men sometime ago. The exceptional dry season has retarded forage plants in nearby areas and has probably kept many of our monument flowers from maturing.

Roads:

Monument roads have been kept in their usual excellent condition. There has been some improvement in approach roads and the outlook is good for future improvements. The maintenance crew of State 181 has done more than just maintain that road. Then miles is being surfaced near El Frida. It is planned to start surfacing the stretch from El Frida to the Douglas-Bisbee Highway soon. The county had difficulties with the arroyos washing out sections of road near Dos Cabezas a few times during the month.

Visitor Statistics

<u>States</u>	<u>Cars</u>	<u>Visitors</u>	<u>Hikers</u>	<u>Guide Minutes</u>	<u>Foreign</u>
Arizona	155	664 (69%)			Bolivia
Others	50	242 (31%)			Canada
					Mexico
Totals 25	205	906	223	4,185	Panama

Park Service Officials

W. H. Wirt, H. B. McDougall and W. Ward Yaeger arrived on the 20th. Made a trip including Sugarloaf Lookout, Echo Canyon Trail and Massai Canyon Trail. These technical men became quite interested in what appears to be a tree infestation starting in the monument. Due to their limited itinerary it was suggested that I send Lawrence Cook and Dr. Deleon specimens for classification so Mr. Yaeger will have knowledge of the correct procedure to follow in the disposal of the infected trees and shrubs upon his return September 15. Custodian and Mrs. Caywood were here July 28. It was a pleasure to renew acquaintances with our nearest colleagues.

Newsworthy Visitors

Charles Cochran and Martin Buzan, agents of the Shrub Invasion Survey used the monument as a base for work nearby.

E. L. Springer, Bisbee, Arizona, collects moths and gladly gave me some interesting pointers on the moths of this region.

Chas. B. Conrad, Sierra Linda Ranch. Mr. Conrad will be remembered as a director of one Casa Grande Pageant.

CHIRICAHUA (CONT.)

John Ball, photographer, Wonderland of Rocks enthusiast, Bisbee, Arizona. Mr. Ball stayed at the Faraway Ranch. I was fortunate in paying a visit there and hearing some of his most interesting experiences while taking pictures of former Mexican troubles. Incidentally, during the evening, Mrs. Riggs brought up what I think a novel idea, consisting of transporting visitors to Massai Point in a horse drawn open vehicle. I consider this practical as it is slow enough speed to view the many formations, will revive earlier modes of travel and give young Americans a chance to experience the thrill of riding behind a set of fours. It even might recall a few cherished memories of the older people.

Cooperation with Other Agencies

The evening of the 21st a fire reported south of the monument in the Coronado National Forest was controlled with the assistance of 25 enrollees from the monument camp. Bill Stevenson, Ollie Nelson and I acted as leaders. It might be claimed we were the best dressed men attending. Bill wore nice clothes with oxfords and I tried to hold up the standard for our side by wearing a pair of the new elastique breeches.

Five rattlesnakes were sent to Dr. Frank M. Blanchard, University of Michigan. A report received in return on the first few sent showed two varieties: *Crotalus molossus molossus* - Black-tailed Rattlesnake; *Crotalus lepidus klauberi* - Green Rock Rattlesnake. Three snakes are awaiting the return of boxes to be shipped. Most of these snakes were brought in by the enrollees working with me on the trails.

Near the utility area in a brushy place a name painted in white lead on a large rock (RWThEi Jones) was discovered. Ruthiri Jones, age 22, schooling 4 grades, Bisbee, Arizona, was a former enrollee in the Bonita Camp (NM-2AO.) He worked on the pipe line in that vicinity. The Sheriff has gladly offered to locate the above Jones and try to impress the necessity to return and remove the defacement. This incident recalls a popular saying of Betty Jackson's father, "Education is like money, it can be used or abused."

Topographic Map:

Andy Clark and Carl Schmidt have completed the map of the monument. They can be proud of doing a nice piece of work in a very difficult country.

It is desired for education purposes to have a map made as soon as possible showing roads, trails and main points of interest from their masterpiece. Andy suggests someone draw small sketches of the outstanding formations in place. This probably could be done from photographs he sent in.

CHIRICAHUA (CONT.)

Donations

A loose-leaf binder for our register sheets was received from the Douglas Chamber of Commerce and Mines.

General

Homer Bennett has replaced Orvel Olinger as CCC guide during the month. Orvel has left the camp to accept work near Mesa. Bennett and Harris are doing nice work in taking care of the visitors and can be congratulated. Both are on the job around seven and one stays until five and longer if needed. This service is gladly given as they only have to put in around forty hours a week. In closing I might add that I find the surroundings delightful and the people a pleasure to work with.

CHIRICAHUA ECW

By Wm. Stevenson, Project Superintendent

During the month 1,764 feet of trail have been completed between Massai Point and Echo Point, leaving 600 feet unfinished on the Massai Point-Echo Canyon loop.

July 27 work was begun on a connection between Echo Point and Rhyolite Trail which will be approximately 4,000 feet in length. 800 feet have been completed to date.

Foundations were poured for the headquarters ranger station this month, sewer and water connections made, and walls constructed to a height of 3 feet. Doors and cabinets are being made up in the shop and are 90% complete.

Excavation for Equipment shed foundations was begun August 20.

Maintenance of the Bonita highway has continued through the month.

A new rock quarry was located this month one half mile from headquarters area. It is estimated that this quarry will furnish enough rock for all of the proposed Monument buildings.

George Keller, Master Mechanic from Oklahoma City, inspected our equipment August 10-12 and recommended condemning two 1933 Chevrolet dump trucks to be replaced by new Fords held here in storage.

Twenty-five man-days were spent this month fighting fire on the Coronado National Forest.

CASA GRANDE

By J. Donald Erskine, Park Ranger

With travel beginning to increase toward the Fall months, the count for August shows an increase of 345 over that of July, the total visitors for August numbering 1,487, which is an increase over that of August, 1935, by 58 visitors. The general type of visitors remains the same with cotton-choppers very prominent. 32 states, District of Columbia, Scotland, Canada, and Mexico were represented among our visitors which is about the same distribution that occurred last month. We had no official Park Service visitors during the month.

The weather for the month has been generally a little cooler than usual with a maximum temperature of 110 on August 13 and 14, and a minimum of 65 on July 26. As to precipitation, the month started off with a bang on the night of July 26 when two inches of rain fell in a few hours accompanied by a wind approaching 50 miles per hour from the East. This storm resulted in several large chunks of mud falling from some of the smaller ruins, but no actual serious damage to the Casa Grande itself, although with the high wind the roof was of no value whatsoever as a protection, and the "Big House" got thoroughly soaked. Rain also fell on August 2, 8, 10, 17, and 20, bringing the total precipitation for the month to 2.54 inches.

Our sewer situation still remains a problem as we hopefully wait some real action from the powers that be. The storm mentioned for July 26 caved in the sewer and required the work of two men a day and a half to dig it back to normal. No one seems to know anything about when we may expect actual work on the new system to begin. We are hoping it won't be many more weeks.

One bit of very excellent news I am privileged to include is the fact that we finally received our new electric fans for AC current, and we are now joined with the Indian Service power line which provides us with reliable and steady electricity at all times. In this same connection a few days after the electricity was turned on, our new refrigerators arrived, so now we have all the modern conveniences one could desire.

Custodian Jack Winter and Virginia are still in Chicago on leave without pay, but we are expecting them back about September 16 and will be very glad to see them both. Jack's place is still being filled very capably by Frank Horne, who was mentioned in last month's report.

Nothing exciting has happened in the Nature line during the month, except that Charlie Steen captured a rattlesnake alive and shipped it to the University of Michigan for identification. It was identified as a Mohave Rattlesnake, *Crotalus scutulatus*. The blacksnake mentioned in last month's report is still startling visitors in the Casa Grande. The young owls have finally left for parts unknown, and we miss them, as they were of great interest to the visitors. The parent birds are still with us, but they are of a more retiring nature, so not so

CASA GRANDE (CONT.)

conspicuous.

The individual guide trip times that we started recording last month are as follows:

Averages:

<u>Guide</u>	<u>Average Time Museum Trips</u>	<u>Average Time Ruins Trips</u>
Erskine -----	23.7 minutes -----	30.9 minutes
Horne -----	25.6 minutes -----	31.6 minutes
Cole -----	29.5 minutes -----	30.5 minutes
Boss -----	26.0 minutes -----	37.8 minutes
Steen -----	14.0 minutes -----	27.3 minutes

PIPE SPRING

By Leonard Heaton, Acting Custodian

I have stepped up the report one day this month on account of the mail service schedule. If this report doesn't get in the mail today it will lay over til August 24, which will make it late in getting in to your office. Our travel and visitors show a decrease in the number of people visiting the monument, but an increase in the local travel. The decrease in visitors, I think, is due to the fact that we have no sign at the junction of highway 89 and the road leading to Pipe Spring, one that people can read from their cars as they approach the junction. I would like to get this sign, and this statement will serve as a request for it.

The weather has been pleasant this month, for the most part, as almost every day there have been some storms around us, either in the mountains or desert. But with all this stormy weather, we here at the monument have not received any great amount. We have had several light rains, just enough to say that it sprinkled.

August 6 Al Kuehl again made me a visit and found things in a better condition and suggested that we get busy on the filling on the wash which we are doing now with the use of a stake truck. We have most of the other projects completed as much as can be till we get some good rains that will soak up the ground to pack it down some. To do anything other than haul dirt, we will need some material for the pipe line, fireplaces, and tables.

I haven't done any bird banding this month as I haven't any feed that they want. I set some of the traps two weeks ago and I have only seen four birds at the traps, rats and squirrels having eaten the rest of the feed.

PIPE SPRING (CONT.)

Made several purchases this month of materials and equipment which I have needed for some time.

Your last few pages of the Supplement were of great interest to me and I have been wondering who thought up that bright idea of moving you and the headquarters into some town away from the place that has produced this great Southwestern organization, known as the Southwestern National Monuments? I wonder if they think men can do better work away from the environment which produces the work. I don't think so. Keep it at Casa Grande Ruins, and we shall grow better than try to transfer it to a different location.

I almost forgot that I cleaned out the two ponds the other week and of the 7000 and 5000 trout that I placed in them eight or nine years ago I only got three out. I still have two old Carp in the ponds and they are so lazy and fat that they won't move unless forced to.

The Broadcast came yesterday and I have enjoyed it as far as I have read it, but I have to get out this report and some other letters and you know how I use time in getting out mail, so it will be this afternoon before I get to finish reading and re-reading the Broadcast.

Will say as the old Paiyte Indians say when they are agreed to anything: "Noonie Tu-Caubin Iwoee Iwoee".

EL MORRO

By Evon Z. Vogt, Jr.

August has been the busiest, rainiest, and most interesting month at El Morro so far.

Weather and Roads

This summer's rains have come in a peculiar manner. We will have a dry spell for a week or more and then a little cloud will suddenly appear. It will thunder twice and begin to pour. Rain will continue to fall off and on for a couple of days and then another dry spell will come. The usual August rains come nearly every afternoon, but this summer the dry spells between rains have been so long that the vegetation in most parts of the country is badly stunted.

The approach roads are getting in worse shape after each rain. Heavy prop trucks en route to Gallup cut deep ruts and often get stuck. The truck drivers then dig deep holes in the middle of the road which are ususally graveyards for the next traveler who struggles along.

However, this being election year I believe that all the roads will soon receive special attention.

EL MORRO (CONT.)

Travel

Travel along the El Morro Scenic Highway was good until the first heavy rains came, and for several days afterwards nobody passed El Morro except transcontinental airplanes, sheepherders on burros, and the mail carrier.

This has, however, been the best month so far. Visitors totaled 470 and represented 20 states, Washington, D. C., Peru, Germany, and Russia.

Newsworthy visitors include Jo Lloyd, Assistant Superintendent of Grand Canyon National Park; Richard D. Sias, Park Service ECW Inspector; and Milo Christiansen of the Oklahoma office; Dendrochronologist Florence M. Hawley, assistant professor of anthropology at the University of New Mexico, who has just recently become Mrs. Donovan Senter, and Donovan Senter, both at the Chaco Research Station this summer; Dr. Julio C. Tello of Lima, Peru, one of South America's foremost anthropologists; Dr. Donald D. Brand, professor of anthropology at the University of New Mexico; Dr. Malcolm H. Bissell of the University of Southern California; and Stanley Milford of the School of American Research in Santa Fe; Eleanore Gardner from Alexandrofsk, Russia; and one of the tours sponsored by the Experiment in International Living made up of five German youths and their leader, Dr. F. Ventz, Friedrichshafen, Germany, eminent German geologist and principal of a high school in south Germany, and five American youths and their leader, F. M. Brown of the Colorado Biological Survey.

The Experiment in International Living is a new movement and its purpose is to promote world peace. The idea being that if the youth of different nations travel around together, live together, and get well acquainted, they will not feel like shooting each other.

A rare thing at El Morro in the way of travel was the first house trailer to enter the monument. It came from Fort Worth, Texas, and camped here a week before moving on.

Flora and Fauna

El Morro and the immediate vicinity has by far the best grass in this region. Here at the monument the gramma grass has grown to six inches and over and is all heading out. One can travel two miles away in any direction and find that the grass has not yet grown two inches. We seem to have been blessed with more rain.

The piñon crop is general and looks to be the most promising in years. But the piñon jays are squawking across the mesas in larger flocks than ever before and are consuming piñons in enormous quantities. It is believed by some that the Biological Survey will have to kill these

CANYON DE CHELLY (CONT.)

Now, however, under the able direction of Mr. Underhill and Mr. Gipe and his crew, much of this damage has been repaired. Drainage has been changed to be carried to the side of the trail, rather than down its center, some turn-outs have been put in, and some bitumuls surfacing has been done to stabilize the soft earth fills. This new work promises to withstand rains properly. The large area that formerly drained into the upper tunnel has been taken care of by the construction of dams and ditches, so that drainage from this area will now be diverted, and will not promptly dive through the tunnel onto the trail, as it formerly did.

And the rains are really with us. This, of course, is said to be due to the ^Hopi Snake Dances, now commencing. The canyons have received so much water that now even horses flounder in the quicksands, and all travel in the canyons has now ceased until the sands become more firm.

The ditches dug around the custodian's residence earlier in the year were judged to be inadequate to take care of cloudbursts, and since this possibility must be taken into consideration, a Navajo Indian with a 2-horse team, plow, and scraper, scraped a wide trench from eight to ten feet in width around the north, west, and south sides of the residence. The earth from the trench was piled up on the side next the residence to a height of over three feet. This should furnish adequate protection.

Minor repairs to the roof were made during the month, to stop a few leaks developing around the caprock. Some flagstones were laid in the patio, but much work yet remains to be done there. Drainage from the roof discharges through one of the canales into the patio, and since there is no adequate provision for conducting this water out of the patio, it is turned into a shallow swimming pool during heavy rains. Flagstones laid over part of this area will enable us to get to and from the garage during rains, but the work is slow, and other things constantly come up to hinder the work.

Ned Burns and Dale King visited us at the end of last month, departing the morning of the day the custodian left on his trip to Headquarters. Mrs. Denman, of San Francisco, was one of our noteworthy visitors during the month. Mr. Ted Sales and Mr. Ballin of Gila Pueblo paid us an all-too-brief visit. Mr. F. M. Brown, of the Colorado Biological Survey, led a party of eleven persons in here on the 18th, but finding the canyons impassable, and with the promise of rain any minute, they left shortly after their arrival. Six of these people were from Germany. Mr. Hamilton paid us a short visit early in the month.

But the Hopis must be meaning business, for now the sky has become heavily overcast once more, and it looks as though rain may start falling at any moment. I shall bring this to a close and drive to Chin Lee to mail it while the roads are still passable.

WHITE SANDS

By Tom Charles, Custodian

If taking care of visitors is the second biggest job in the Park Service, I'm wondering what the big job is. It seems to me that visitors overshadow everything else at the Great White Sands.

I've got that visitor business figured out to my own satisfaction. Not that I have acquired 100% efficiency but I've got the stride and am ready to train.

Some years ago when I was working my way through school, I built up paper routes and sold them, for a living. If I could get 40 to 50 satisfied subscribers on a route I could sell it for \$200 to \$300. I soon found that my mental attitude toward the subscriber had to be 100% in his favor. I believe that I held many a subscriber, not because the paper was what he wanted, but because I was kind to him and he responded and we built up a mutual feeling of friendliness.

I still have a little hangover of that feeling in my contacts with visitors at White Sands. I feel that every visitor to the Sands pays this particular unit for the Park Service a compliment, by the mere act of coming, and therefore pays a compliment to me. I start on the basis that he is a friend of mine, and with that start I have the right mental attitude. You may remember that in the good old days when called guards back, played 7 men behind the line and almost stripped them instead of a rmouring them with 18 pounds of sole leather, they taught us that "mental attitude" is 25% of the game.

I'm old-fashioned enough to believe that it still is. If I start on my visitor with a feeling that he is a friend, that he has already paid me a high compliment, I am likely to smooth out many of the little wrinkles which we have to smooth out the first minute of the contact. If I haven't the visitor pretty well "in tow" the first minute, then it may be a long struggle. But it is my job, whether he is driving a Model T or a Packard, whether he is a college professor or full of fool questions. I have something to sell him. If I cannot sell it, when it doesn't cost him a cent, then I feel sure that there is something wrong with me. I am not satisfied with myself when a contacted visitor leaves the Sands dissatisfied.

It is not my job to convince him that the White Sands excells the Carlsbad Caverns or any other park or monument, but it is my job to present enough things of interest to convince him that it was worth his while to have come this way. There is something, somewhere between the buried mastodon, the giant tracks, the poppy field where the Apache Indians slaughtered a company of colored soldiers, the white mice and the white lizards, the formation of the Sands, themselves, the struggle of the living plants against the encroaching death from the drifting sand, that will interest every visitor.

WHITE SANDS (CONT.)

I am not a visitor specialist but I believe that this is sound and if it is not, then I want to know it.

Our outstanding event this month was the meeting at the Sands for the dedication of the completed highway between El Paso and Alamogordo, which is a part of the loop road from El Paso to the Sands and home by way of Las Cruces.

The meeting was sponsored by the Chambers of Commerce of the two towns and the civic organizations from Las Cruces, Tularosa, Mescalero, Ruidoso and Cloudcroft joining in. There were 210 cars at the picnic ground at 9 p.m; it is said that fully 300 cars had been there during the evening.

Among the distinguished visitors were Governor Tingley and wife, United States Senator Hatch and family, United States Senator Chaves and family, all of New Mexico; Congressman Thomason of Texas; Judge Joseph McGill; Adrian Pool, Collector of Customs; Captain Simons, manager of the Chamber of Commerce; H. S. Hunter, editor of the El Paso Times and 395 other El Pasoans.

As Senator Hatch stood in front of 1,000 people seated in the Crystal Bowl and under the soft light of the full moon, he said, "No place else in the world is there a scene like this"; United States Senator Chaves spoke in the highest praise of officers of the National Park Service from our Director down to the ranks and proclaimed them, "One of the finest groups in the employ of the Government." Governor Tingley said, "We have finished the road to El Paso, now the road past the White Sands comes next."

Besides the speaking in the Crystal Bowl there was music by a 36-piece, El Paso band; community singing, "Oh, Fair New Mexico", "The Eyes of Texas", "At Home on the Range"; Spanish dancing by an El Paso maiden; war dances by a group of the Old Geronimo Indians and \$100 worth of fireworks presented from the distant hills by the Alamogordo Chamber of Commerce.

There was nothing left to be desired from the custodian's viewpoint.

Our Sunday crowds have been as follows:

July 26	-----	840
August	-----	2,621
"	-----	1,155
"	-----	742
Total		<u>5,358</u>

The registration has been nearly double any other month, so far. The total for the month has been 2,785 registered; from 39 states.

WHITE SANDS (CONT.)

Washington, D. C., and 5 foreign countries. Texas leads with 1,095, with less than 20% of the Texas cars being from El Paso, New Mexico had 424, Oklahoma 165, Kansas 55, California 53, Illinois 42, Louisiana 30, New York 22, Florida 12. On the basis of 14% registration we had 19,893 visitors from July 21 to August 20, inclusive.

NAVAJO

By John Wetherill, Custodian

People are coming in flocks. Only a small number are trail broken and the rest have not enough nerve to try the goat trail to the ruins. We would have had more than a thousand visitors this season if they could have gotten over what some people call a road. I do not care to take our car over it again.

I am sending with this some questions which have been asked by visitors to the ruins.

There have been quite a few Ologists of various kinds in lately, among them Dr. Loomis and Dr. Antevs. James Swinnerton and his wife are here now and expect to visit the ruins as soon as some of their friends arrive.

This is written in a hurry as we are all busy and cannot settle down to write. With best wishes to all.

GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for August total 729.

Our roads have been in excellent shape which I think accounts for our increased number of visitors.

We have had many visitors who were in Government employ during the month, several were with the Land Bank Division, several from the Department of Investigation, Department of the Interior. Two were WPA investigators checking up on care of public records. Mr. Borell of the Wildlife Division called in company with a gentleman from the Forestry Department. I took up the matter of tree diseases in some of the trees on the monument. Quite a number of both large and small trees seem to be dying. They start with a single limb turning yellow and this later seems to spread over the whole tree.

The principal crop of this locality is beans. Up to about a month ago we had every indication of a bumper crop, but lack of rain during the past two weeks has already cut the crop in half and everybody is

(GRAN QUIVIRA (CONT.))

praying for rain.

We cannot get a daily paper here and to keep in touch with the rest of the world, we purchased a Radio. It uses a battery which is kept charged by a wind charger and at our altitude wind is a plenty. The first night we got good contact with France, Italy, Germany, Mexico and several South American countries. Now when the Park Service has something on the air we intend to listen in.

Our trouble at the present time is rattlesnakes. Am going to ask the Boss to allow me to put a cement floor in the room we call the museum; it is the one covered room among the ruins and owing to its coolness the snakes have completely appropriated it.

A pine sliver gave our youngest boy a bad case of blood poisoning. I took him to the hospital in Albuquerque and it was during my absence that Mr. W. H. Wirt and H. B. McDougall of the Oklahoma City office, and Mr. W. Ward Yaeger of the Santa Fe office called at the Monument. We were very sorry to have missed them. The present condition of roads makes Albuquerque only three hours away and we have had many visitors from there during the month.

I neglected to say that Dr. Chas. W. Gould of Oklahoma City and Mr. Vincent W. Vandiver of the Santa Fe office, geologists, paid us a visit on July 21. They were much interested in a Porphyry Dike running across this country. One of the kivas in the plaza was dug out of the center of this dike. They wished me to trace it for them. So far have traced it about ten miles and it is heading for El Capitan in the Sacramento Mountains.

HEADQUARTERS STUFF

By Charlie R. Steen, Jr. Park Nat'l list

The Educational Staff of the Southwestern Monuments for July, 1936, was composed of Assistant Park Naturalist Robert H. Rose; Junior Naturalists Dale S. King and Charlie R. Steen; and ECW Student Technician Clarence R. Cole.

Rose was stationed at Berkeley, California, during the entire month. He is trying to dig some information regarding the early Spanish missions in New Mexico and Arizona from the publications in the Bancroft Library.

Junior Naturalist King was at Bandelier National Monument, with the exception of ten days sick leave, preparing museum exhibits until the 21st. On that date he started annual leave. King will enter Yale University in September for a year's study with the Park Service Fellowship.

BRANCH OF EDUCATION (CONT.)

Report of Student Technician Clarence R. Cole, ECW

Office Duty:

Completed re-covering Chiricahua informational leaflets.
Completed re-covering Tonto informational leaflets.
Mimeographed 2,000 Bandelier informational leaflets.
Washed glass on library bookcases.
Painted gathering rack.
Mimeographed 170 Monthly Reports.
Mimeographed 4,000 White Sands informational leaflets.
Unpacked and waxed two swivel office chairs.
Mimeographed covers for August Monthly Report.
Prepared "El Palacio" library list.
Prepared "Masterkey" library list.

Guide Duty:

Ruins trips: 21
Museum " : 20
Total Minutes: 641 (Ruins)
Total Minutes: 589 (Museum)
Average time Ruins Trips: 30.5 minutes.
Average time Museum Trips: 29.5 minutes.

Bird Banding

Due to the large amount of natural food available to birds, banding operations were carried on at only one monument, Tumacacori, New birds banded by Caywood were:

Pyrrhuloxia -----	5	Canyon Towhee -----	4
Arizona Cardinal ---	4	House Finch -----	1
Cowbird -----	1	Mockingbird -----	2
Inca Dove -----	1	Lazuli Bunting -----	1
Palmer Thrasher ----	<u>1</u>	Total	<u>20</u>

Accessions and Gifts

Mr. Cecil Rodgers of Mesa has loaned a group of photographic plates exposed by his uncle between 1896 and 1901. These pictures are: of several missions, San Xavier, Tumacacori, San Ignacio and one other which hasn't been identified yet; the Casa Grande; photos of a Pima village north of Mesa.

Through the Pueblo Grande Museum two small archeological collections were donated to the monuments.

1. From Gingrey's Ranch in Black Canyon and donated by Mr. Witaker of Phoenix;
-fragment of a large basket

BRANCH OF EDUCATION (CONT.)

- Several small fragments of a coiled basket
- Sandal
- Wooden slab
- Piece of yucca fibre cord wrapped with sinew.

2. From a rock shelter in Arivaipa Canyon, donated by Mr. Hicks of Mesa:

- Two fragments of coiled baskets
- One carved stick.

These artifacts will be stored at headquarters until facilities for storage or display are available at monuments to which they are pertinent.

The following books have been received and are now in the headquarters library,

531 - 47th Annual Report BAE 1932

- The Acoma Indians, by Leslie White
- Isleta New Mexico, by Elsie Clews Parsons
- Zuni Ceremonialism, by Ruth Bunzel
- Zuni Origin Myths, by Ruth Bunzel
- Zuni Ritual Poetry, by Ruth Bunzel
- Zuni Katchinas, by Ruth Bunzel

532 - Experimental Studies of the Education of Children in a Museum of Science, Arthur W. Melton - Nita G. Feldman - Charles W. Mason
Publications of the American Association of Museums - New series
No. 15, Washington, D. C., 1936.

533 - The Material Culture of Pueblo II in the San Francisco Mountains, Arizona, by Katherine Bartlett - Museum of Northern Arizona, Bulletin 7, 1934.

534 - Ninth Annual Report of the Smithsonian Institution, 1855.

- American Explorations in 1853 and 1854.
- The camel, by George P. Marsh.
- On the nature and Cure of the Bite of Serpents, and the Wounds of Poisoned arrows, Dr. D. Brainard.
- Diary of an Excursion to the Ruins of Abo, Quarra and Gran Quivira in New Mexico under the Command of Major J. H. Carlton, U.S.A.
- Catalogue of the Berlandier Collection of Manuscripts.

535- Agriculture of the American Indians, a classified list of Annotated Historical References with an Introduction. Edition 2, by Everett E. Edwards - U. S. Department of Agriculture.

BRANCH OF EDUCATION (CONT.)

536 - Geology of the Monument Valley - Navajo Mountain Region, San Juan County, Utah. Geological Survey Bulletin 865.

537 - Correlation of the Jurassic Formations of Parts of Utah, Arizona, New Mexico and Colorado. Geological Survey Professional Paper 183.

538 - The Corner Tang Flint Artifacts of Texas, by J. T. Patterson, University of Texas, Anthropological Papers Vol. I No. 4.

Visitor Statistics

We had 40,942 visitors last month as nearly as we could count them and when you get to thinking about it, that is quite a crowd. It was an orderly crowd and we had practically no police difficulties.

It was also an eagerly interested crowd, taken as a whole, and there we fell down - we didn't have enough men to answer questions and give information. We made 51.2% contacts on the 40,942. Since, to make our figures compare with those of the Educational Division in the parks, we count a visitor who goes through the ruins and then goes through the museum as two contacts, these figures mean that we have actually met considerably less than the 51.2% of the 40,942 visitors we had. We regret this greatly for our ideal is to greet every visitor.

This month, with its 40,942 visitors shows a considerable increase over last month with its 30,110 visitors, and with it we have reached the high peak of the year; we will now drop back until we are handling between ten and fifteen thousand per month during the winter.

Fortunately for us, the peak of this monthly load fell heaviest on two monuments where it could do us the least harm; White Sands and Capulin. The visitor at these two places can do but little permanent damage, whereas such a visitor load simply walking through some of our areas would do some unavoidable damage. While these two monuments present rather minor police problems, it is greatly to be regretted that we cannot keep men in charge of them so the visitors might gain some much wanted information. About sixteen thousand visitors wondered how the white sands were formed and why and went away without being told any of the very interesting story. About four and a half thousand visitors did the same thing at Capulin in connection with that interesting volcanic cone. Don't you think these twenty thousand visitors last month, (nearly as many as will go to Mesa Verde this season) were entitled to the services of about three temporary rangers? I don't think that is asking for too much.

We ran 2,410 guided field trips last month as against 2,100 the previous month and we handled 13,737 visitors as against 11,011 the previous month. There were 1,173 museum trips with 7,049 visitors

BRANCH OF EDUCATION (CONT.)

compared with 1, 129 trips with 6,008 visitors the previous month. We had no extra men on duty so this means that the force carried just that much more load. The adjustment was made by a slight increase in the average party, from 5.2 to 5.7 on field trips and from 5.3 to 5.9 in the museum, and a slight decrease in the average time per party, from 41 to 39.1 minutes in the field trip and from 21.3 to 20.8 in the museum trips. In other words, the figures tell us that if you load more visitors on us without giving us more personnel, we will have to speed up the machine and put the visitors through in faster time and larger batches. This is all right up to a certain point and then your machine will begin to break down and you will be giving poor service.

Our ideal is to meet every visitor. If we could do this we would show 100% contact on the total travel at the monument if we handled the visitor once. If we take him on a field trip and a museum trip, we would show a 200% contact if we met every visitor.

Aztec, for instance, should show two contacts per visitor if our ideal could be obtained, or 200% contacts on the total travel for the month. It really shows 197.2% contact which is coming pretty close to the ideal.

Casa Grande shows 198.4% which is probably about as high as we can expect to attain at that monument.

Aztec and Casa Grande make a nice comparison in this regard because both are on level ground, have about the same distance of walking through ruins and museums of about the same size.

If we want to study visitors under more difficult conditions of contacts, let us take Montezuma Castle and Tonto, where visitors must put forth considerable effort to see the ruins but can easily enter the museum..

We find Montezuma has 159.2% contact and Tonto has 146.9%. Neither of these monuments could be expected to run as high as the two above mentioned, because many of the visitors will be physically unable to make the ruins trip. Comparing the museum contacts, on which the ideal would be 100%, we find Aztec stands 97.2%, Casa Grande stands 99.7%, Montezuma Castle, 91.8% and Tonto, 84.2%.

Incidentally, we might say that Casa Grande has not consistently run such a high percentage of visitor contacts nor can we hardly expect it to do so well in the winter months when it is at its peak and the place is undermanned. For instance, beginning last October, which is the beginning of the visitor year, and on the basis of 200% being the ideal, we have the following percentages, month by month; October, 135%; November, 136%; December, 81%; January, 142%; February, 179%; March, 174%; April, 157%; May, 133%; June, 183%; July 191%, and Aug., 198%.

STATISTICAL SUMMARY ON EDUCATIONAL CONTACTS FOR AUGUST, 1936

Southwestern National Monuments

Monuments	No		Guided Trips			Museum Lectures			Museum Unattended		Outside Lecture		Total Contact	Total Travel	Percent of Contacts
	Employ	Per Tem	No.	Att.	Time	Av. Att.	Av. Tm.	No.	Att.	Tm.	Av. Att.	Av. Tm.	No.	Att.	
Arches-----	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aztec-----	1	1	323	2658	12690	8.2	39.2	394	2585	4785	8.7	16.2	4	36	5243
Bandelier---	4	4	236	1928	16832	8.1	171.3	-	-	-	-	-	-	-	1928
De Chelly---	1	1	18	69	4560	3.8	253	-	-	-	-	-	-	-	69
Capulin-----	P	P	2	36	120	18	60	-	-	-	-	-	-	-	36
Casa Grande--	1	1	270	1468	8558	5.4	17239	1483	5959	6.3	24.9	-	-	-	2951
Chaco-----	1	1	105	619	6930	5.9	66.80	487	1685	5.8	21.	-	-	-	1106
Chiricahua -	1	2	34	223	4185	6.5	105	-	-	-	-	-	-	-	223
El Moro-----	1	1	78	408	5094	5.2	65	-	-	-	-	-	-	-	408
Gila Cliff---	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Gran Quivir--	1	1	141	730	8305	5.1	58.9	-	-	-	-	-	-	-	730
Hovenweep---	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mortezuma---	1	1	175	1064	8405	6	48	239	1449	5355	6	22.4	-	-	2513
Nat. Bridges	1	1	12	72	1280	6	106	-	-	-	-	-	2	212	284
Nevado-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pipe Spring--	1	1	22	85	585	3.9	26	-	-	-	-	-	-	-	85
Rainbow-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Saguaro-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sunset-----	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tonto-----	1	1	50	203	3645	4.0	72.65	273	1410	6.2	21.5	-	-	-	476
Tumacacori--	1	1	177	912	5005	5.1	28.2	-	-	-	-	-	-	-	912
Walnut-----	1	1	186	890	4005	4.7	21.5	261	772	5310	2.9	20.3	-	-	1662
White Sands--	P	P	543	2181	2183	3.9	3.9	-	-	-	-	-	-	-	2181
Wunahki-----	1	1	38	189	1904	5	50min.	-	-	-	-	-	-	-	-
Yucca House--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Headquarter--	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total--this mo			2410	13735	94288	5.7	39.2	1787	04924	504	59	20.6	2	212	20996
Total--last mo			2100	11011	86233	5.2	41.1	1129	6008	2413	53	21.3	10	-	17019
															30,110
															56.5

Note: Bandelier and Chiricahua each has 2 CCC men, included in no. of temporaries.

VISITOR STATISTICS CHART

August

No
Servi

July

30,000

30110

20,000

June

23838

May

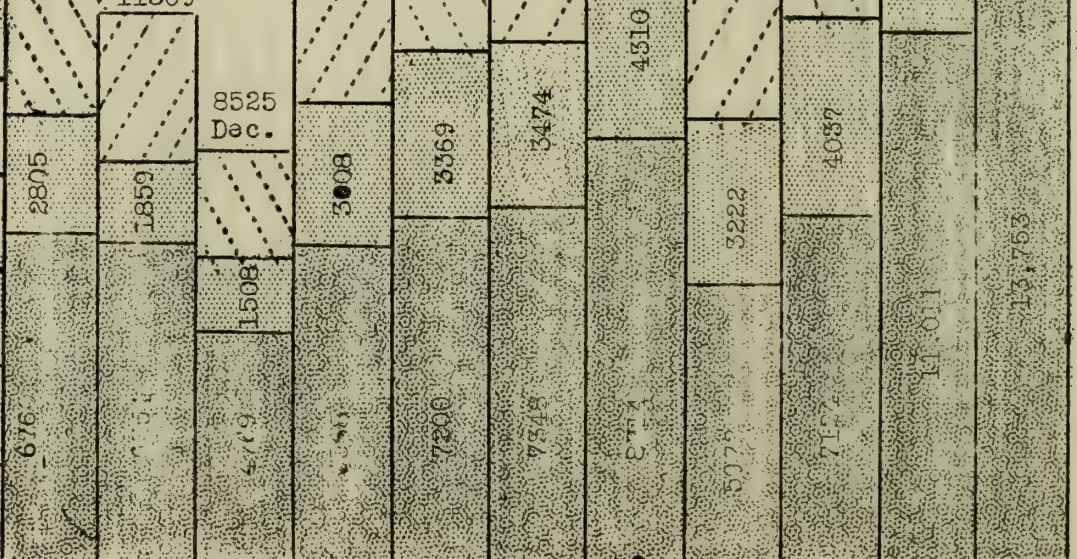
22833

April
18830March
15379Feb.
13859Jan.
14044Nov.
11309Oct.
12608Dec.
8525

10,000

Mus.

Fiel



BRANCH OF EDUCATION (CONT.)

Casa Grande, being the laboratory monument where we try out funny ideas, is the first one at which we have made this visitor contact percentage study, but we expect to look over the others one at a time, since this one has proved so interesting. There may be some argument about whether we should strive to hold visitors a little longer in our field and museum trips - at least there has been quite a lot of argument on that point among members of the staff - but I have yet to hear anyone argue that we ought not to meet every visitor if that were possible, or, if that is impossible, the more we meet, the better we are fulfilling our duties toward the visitor.

CLOSING

It has been a pretty good month, Chief, as you will have seen from the reports from the men in the field. The weather has been seasonable, the roads have been fair, except those up in the Indian Country which have been bad part of the time and not very good the remainder of the month.

From the visitor standpoint it was the peak month of the year with forty thousand of them coming in on us. It is too bad we could give them almost no service where they struck us hardest, White Sands and Capulin, and at some of the other places the service was pretty badly stretched. Aztec is a case in point, where two men handled 2,658 visitors through the ruins and museum and made 197.2% contact out of a possible 200%. In some places handling that many visitors would not be much of a chore because they would be handled by the hundred, or, as Tom Bles has them, a thousand at a time. But at Aztec the average party was made up of 8.2 people for the ruins and 8.7 people for the museum. That means almost individual service because every visitor can get his every question answered and the guide can adapt his talk to the particular interests of the persons in his party and not have to give a short of "shot gun" talk and hope that every one got a little of it. These visitors at Aztec last month spent 39.2 minutes in the ruins and 16.2 minutes in the museum, so they were with us long enough to really get some good out of the trip. Next year the figures are telling us we will need a peak load temporary at Aztec if the good times keep growing and more visitors take to the road.

The heaviest job of the month seems to have again fallen at Walnut Canyon. One has to go a little behind the figures to see this. Paul made 1,662 contacts while Tom, over at White Sands made 2,181. The difference is that Tom had a lot of parties but talked less than four minutes per party while Paul averaged 21.5 minutes per party on his field trips and 20.3 minutes per party in what we call his museum. You might think that since Aztec had 5,243 contacts with two men whereas Walnut with one man had 1,662 contacts with one man, the Aztec

CLOSING (CONT.)

boys would win the prize. The difference comes in the size of the parties. The two men at Aztec really put in 17,475 minutes at guiding, or an average of 8,737 minutes each. The Walnut Canyon man put in 9,315 minutes; he therefore wins by a nice margin.

The figures at Walnut Canyon are simply crying out the need of one permanent man and a temporary man through the heavy season. The argument is sometimes raised that the Walnut Canyon ruins are not very important, at least from the archeological standpoint, why, therefore, do we need two men? My theory is that if the people go there, as they do, and want to know who? and when? and why?, as they do, it is our duty to have enough men there to tell them. One of the gentlemen of the Budget once agreed to that conclusion by saying about one of our reservations: "I grant your argument as being sound. Personally I wouldn't cross the road to see the place but if a hundred thousand blamed fools want to go there to see it, we will have to furnish them some accommodations."

These visitor statistics we are getting together, faulty as they are, and no one claims perfection for them, are proving mighty interesting and are not so easily laughed off when they prove the need of more personnel as in the case just pointed out.

It is very strange to me that, with all these specialists we have going hither and thither and yon, no one has thought of putting on a specialist who can come around and study these problems and show the Washington Office by the tabulated results of such investigations where, under the laws of mathematics, the personnel and the funds are being stretched to the breaking point and where they are being wasted. We note in our ECW camps, for instance that if we have a couple of caterpillars standing idle for thirty or sixty days a specialist spots them and takes them away from us and puts them to work in another camp where they are needed. Of course it would not be quite as easy to shift personnel and funds as it is to shift equipment, but the principle is sound and a technique could be worked out to attain somewhat the same results. We are really doing that within our own unit, but there seems to be no specialist who can do it between the different units of the Service.

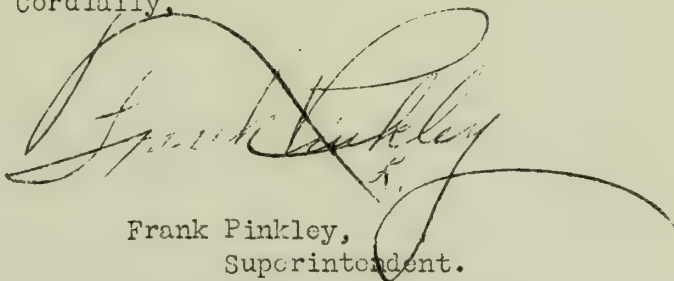
Out of the forty thousand visitors last month we have thus far had one complaint. That isn't a very high percentage but we are going into it thoroughly and will render a special report on it. The complaint runs to the effect that a visitor reached one of our one-man monuments after five o'clock and was refused service on the basis, apparently, that the eight-hour shift was over and the man was off duty for the day. I thought all our men on the one-man jobs understood that they were there to deliver service and that there would be plenty of times when they would be overworked but that was a part of the job they were taking and they were to take it on the chin with a smile. Custodians, rangers and

CLOSING (CONT.)

guides on one-man posts have no eight-hour shifts. On the two-man posts we try to arrange an eight-hour shift, but, as the late Mr. Hamlet once observed: "It is more honored in the breach than in the observance."

The office force has done about the usual amount of overtime work this month. We have been trying our best, in our feeble way, to fill the vacant Chief Clerk position since July 1; thus far the papers have not come through. When we have a vacant job we need the man so badly that such delays get us in quite a dither. All office work is, by the grace of God, current.

Cordially,

A large, stylized handwritten signature in dark ink, which appears to read "Frank Pinkley". The signature is written in a cursive style with long, sweeping strokes. It is positioned above the printed name and title.

Frank Pinkley,
Superintendent.

THE Supplement

S-M MONTHLY REPORT

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TUMACACORI ALCOVES OR TRANSEPTS

By J. H. Tovrea
and Frank Pinkley.

For many years we puzzled over certain non-bonded wall joints in the nave of the Tumacacori church. It might be well to put the problem down here and let others see if they can add to our information or develop any new theories.

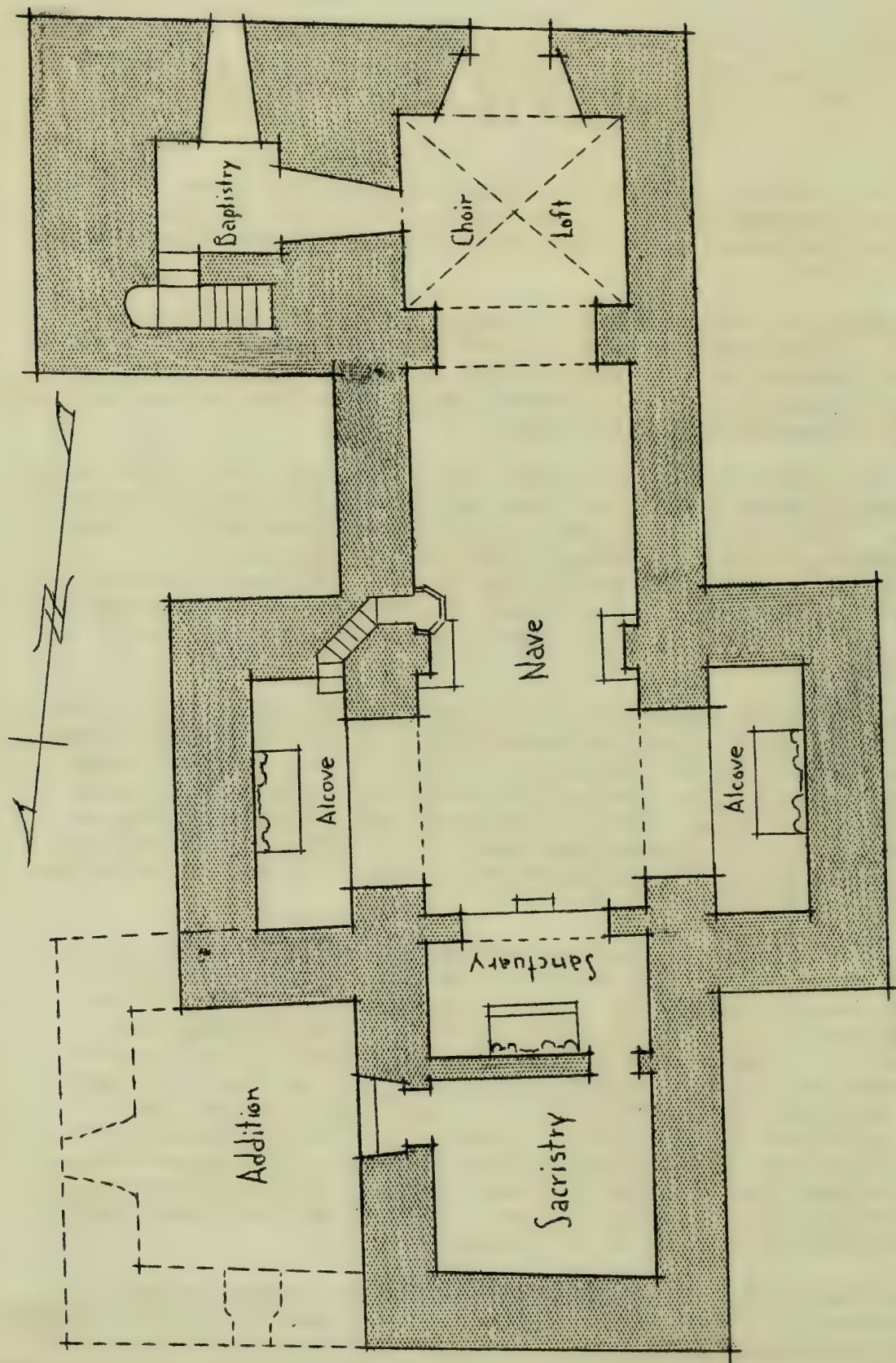
Tumacacori was abandoned about a century ago. The beamed roof of the nave fell into ruin, partly due to vandalism and partly due to weathering. The interior walls of the nave were thus left open to the elements for several generations and the interior plaster broke away in large patches revealing the construction of the wall.

Not quite half way down the length of the nave from the entrance doorway are two pilasters, one against each wall, running the full height of the nave. Just in front of these pilasters some three feet the plaster being broken away exposes an unbonded joint in the wall which runs up about seven feet from the floor before the adobe bricks begin to bond across. About twelve feet farther along the walls we find another of these unbonded joints in each wall running to the same height before the adobes begin to bond across.

As we walk up the nave from the entrance doorway, just before we come to the pilaster on the right, the broken plaster shows, at a point several feet above the floor of the church, what appears to have been an entrance, window, or opening of some kind into the wall, which has afterward been filled with adobe bricks. Only the bottom of this supposed entrance or opening is visible, the plaster just above still clinging to the wall and preventing one from seeing whether or not the top of the opening might have had a wooden header or adobe arch.

The above were all the facts we had for some years and upon them we built many theories. One of the best of these theories was that the Padres had designed this church to have a cruciform plan; that the unbonded lines in the adobe walls marked the width of the openings into the transepts and that the opening or entrance in front of and near the east pilaster was the opening into the pulpit. We presumed that something had happened to make a change in the plan; that after the walls had been built some six or eight feet high the idea of constructing transepts was abandoned; that the workmen were ordered to fill up the transept openings and brick up the entry way which they had partly constructed leading from the east transept up through the wall into the pulpit which would have stood in the nave of the church.

This theory, given above, would account for the non-bonded joints in the walls of the nave and for the making of the so-called "pulpit entrance" which was then filled up and plastered over. It would also account for



• POSSIBLE PLAN-EARLY TUMACACORI •

the bonding over of the adobes above the joints in the walls. The whole thing was just a change of plan while the church walls were under construction.

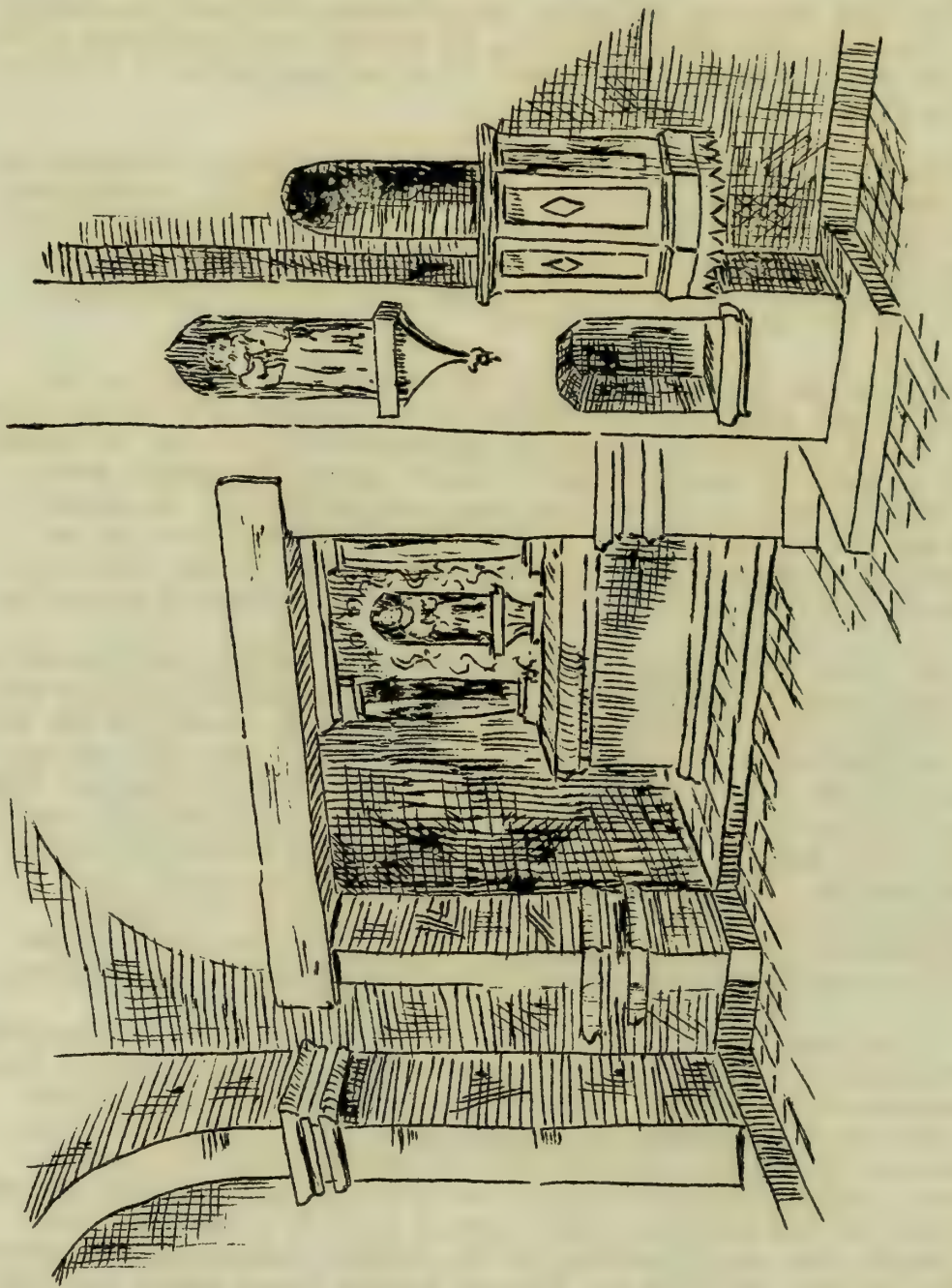
One time when Mr. George L. Boundey was Custodian of the Tumacacori National Monument, in doing some clean-up work and re-grading along the west side of the mission, he exposed the foundation of the supposed west transept. He opened it up and we looked it over and he then closed it up again.

One startling thing about this foundation, which developed in this examination, was that there were a few inches of the original wall still standing above the rock foundation and these few inches of the adobe wall CARRIED THE ORIGINAL STUCCO PLASTER WITH THE CHARACTERISTIC RED AND BLACK DECORATION SUCH AS THE WHOLE LOWER SECTION OF THE CHURCH ONCE CARRIED.

It does not appear reasonable to us that they would put the plaster on the inside or the stucco on the outside of a partly built wall. As we view it, then, the importance of this bit of stucco on the outside of this wall was to prove beyond reasonable doubt that this transept or alcove had once been completed; in other words our theory of a change of plan during construction and an abandonment of this part of the structure before it was completed would not fit this fact of the stuccoed exterior face of the wall.

The study of a sister mission across the border, San Ignacio de Caborica, shows a plan somewhat similar to Tumacacori with two alcoves opening off the nave. The walls of these alcoves do not extend as high as the church walls and the alcoves have flat roofs. The east alcove has a pulpit entrance starting upward from the floor of the alcove, turning to the right and coming up through the wall of the nave, opening into the pulpit several feet above the floor of the church. Here we have in actual use precisely the same arrangement which we thought had been in effect at Tumacacori. The alcoves at San Ignacio each have an altar at the back and we think the same arrangement would have been effected at Tumacacori.

We are now of the opinion that these two alcoves or transepts at Tumacacori were at one time completed and in use; that in a later reconstruction period the walls of the nave at these points were torn down to a point some eight feet above the ground, the alcove or transept walls were removed down to ground level, the former entrance opening into the alcoves or transepts were bricked up and the walls of the nave were then carried back up to roof height. This would also entail closing up the pulpit entrance and the present pulpit entrance was then cut through farther along toward the rear of the church. It is also possible that the present sacristy was constructed at the time of this reconstruction and the present arch erected between the nave and the sanctuary, but these are problems which are outside the scope of this paper and will be treated later.



· TUMACACORI · ALCOVE ·

As the facts now stand it seems probable to us that the nave walls of the present church might have been built before 1760. At that time these alcoves or transepts were complete and were in use. We have some reports of the church being attacked and at least partially destroyed by the Apaches in the 1760's and at this time the roofs of the nave and these transepts or alcoves were probably destroyed by fire and the walls left open to the elements. Nothing seems to have been done until 1781 when we have a notation that the church had been rebuilt or restored and was again in use. We think it is entirely probable that it was in this reconstruction of 1781 the decision was made to abandon these side structures, because of their ruinous condition, possibly because the fire had destroyed the lintel beams which may have carried the walls across the openings, or because they had been too badly desecrated to be used again, and so the present arrangement of the interior of the church dates from about 1781.

Attention should be called, at this point, to the fact that the four large altars in the nave of the present church are not bonded into the nave walls. The plaster of the nave walls runs unbroken behind the altars. Now, since the extensive reconstruction as set out above would probably entail a replastering of the interior walls of the nave, we might suppose the present altars in the nave to date from 1781 or later.

This would fit well into our theory for with the high altar in the sanctuary and the two side altars in the alcoves or transepts, no others would be needed, whereas, upon the abandonment of the alcoves or transepts the Padre might decide to relieve the plainness of the nave by introducing the present altars.

We present this study of the problem of the alcoves at Tumacacori for better heads than ours to puzzle over and to point out to the research men who are now working over the ancient records the need of looking carefully through all the reports around 1781 to see if any documentary evidence can be found which will corroborate these guesses of ours as to a reconstruction and if there was one just how extensive it was.

PECULIAR GROWTH OF CACTUS

by Charlie R. Steen

A large prickly pear, *Opuntia englemanni*, which grows just in front of the Casa Grande Museum has offered two peculiar growths during the current growing season.

In May, while the plant was putting forth new pads, a flower budded and blossomed from one of the new appendages. At the time the flower appeared the joint was no more than two inches and a half in length. The blossom apparently had no ovary and after it had wilted and fallen only a scar was left on top of the joint to indicate what had happened, and the incident was almost forgotten.

The joint continued to grow until it's length had increased to four inches and a quarter. In July, at the time the normal ovaries were showing signs of ripening, a swelling at the top of the new pad was noticed; this swelling began to take on a purplish tint, just as the fruits of the plant. At present this peculiar looking 'fruit' has a color almost as deep as that of it's more conservative brethren, and



FULL FACE AND PROFILE DRAWINGS OF JOINT

Peculiar Growth of Cactus, Cont'd.

has split to expose a very dry interior. The seeds are white, in contrast to the brown seeds of a normal fruit. The production of such an anomaly has proved too much of a strain for the young pad. It's strength has been sapped and since about August 15th it has started to wither and fade.

The other peculiar growth noted on this cactus was an exact opposite of the one just described. A small joint started growing from the flat upper surface of an immature ovary. The pad never reached the stage where it's leaves were formed into spines. During June both ovary and new joint gave up the ghost and fell from the plant.

CARLETON'S DIARY - 1853

DIARY

Of an excursion to the ruins of Abo, Quarra, and Gran Quivira, in New Mexico, under the command of

MAJOR JAMES HENRY CARLETON, U. S. A.

Wednesday, December 14, 1853.

A squadron of cavalry, formed of company "H", first dragoons, commanded by First Lieutenant Samuel D. Sturgis, and company "K", first dragoons, commanded by Brevet Major James Henry Carleton, in all one hundred strong, with one 12-pounder mountain howitzer, left Albuquerque, at eleven o'clock this morning, as an expedition to explore the country around the ruins of Gran Quivira, New Mexico, and for other objects connected with the bands of Apache Indians who often infest that portion of the territory.

Our route, for the forty miles, lies down the left bank of the Rio Grande. This part of the country has often been described. Its principal features are easily named. The Rio Grande, at this point, averages about one hundred yards in width, and not more than eighteen inches in depth. Its waters are turbid, like those of the Kansas. Its bottom and banks are composed of sand. The valley along the river is very level, and usually not over two feet higher than the surface of the water. In some places it is more than two solid miles broad. It has a great deal of sand mixed with the soil; but it is remarkably fertile. From this valley a second bottom, or table-land extends, by a gradual ascent, back to the mountains on either hand. This table-land is destitute of water and uncommonly sterile. The lower level, which skirts the river, and which is irrigated from it, is the source of nearly all the agricultural wealth of New Mexico.

A storm of rain which came on yesterday continued, almost without intermission, for the whole of last night and until late this forenoon; the roads are, therefore, very muddy. In consequence of the heaviness of the travelling, the squadron was encamped near the residence of an American gentleman, named Baird, seven miles 694 yards below Albuquerque. Here we are able to obtain wood and hay; but we are obliged to send across the Rio Grande to purchase corn.

Thursday, December 15, 1853.

About four o'clock this morning it commenced snowing, with a piercing wind from the north. Our poor horses, exposed to the inclemency of the storm, were soon chilled and trembling with the cold. By eight o'clock the weather began to moderate; but we had snow-squalls, from different points of the compass, for the whole forenoon. Before we reached a little hamlet, called Valencia, fourteen miles 265 yards from our camp of yesterday, we encountered a shower of rain and sleet. As in this place we could get two corrals, wherein our horses could be partially sheltered, it was decided that we should encamp here for the night. The weather seems singularly unpropitious for an expedition. It is said to be quite unusual to have these storms in New Mexico at this season of the year. Tonight, however, at nine o'clock, the clouds have all left the heavens, and we have promise of a fair day tomorrow.

Three Mexican citizens of respectability, a Mr. Chavis and two of his sons-in-law, came to our camp this evening, and informed Major Carleton that it was their intention to establish a colony of settlers at a point east of a range of mountains known as the Sierra Blanca, and along some streams affluent to the Peccas, called the Seven Rivers; that they proposed going with this command as far as Gran Quivira; and that from that point to the Seven Rivers they desired to be furnished with an escort of dragoons. They were informed that Brevet Lieutenant Colonel Chandler, of the army, was about to proceed from near Doña Ana, with three companies, directly to the country in the neighborhood of the Seven Rivers, and, if they wished to do so, they could have the advantage of his protection. Mr. Chavis concluded to go by the way of Gran Quivira, at all hazards; and to proceed across the country, from that point, even without an escort. The truth doubtless is, the old gentleman fancies that the purpose for which this squadron is going into that country is to search for a great amount of treasures which are said to be buried beneath the ruins there, and he hopes he may be able to obtain a share of them.

Friday, December 16, 1853.

The weather became very cold last night; all the ponds of water extending up and down the valley are frozen over, and the ground is hard and resounds loudly at the tread of the column. The sand-bars along the river seem to be covered with geese, ducks, and brant, which

have been driven by the ice from the lagoons and sloughs. They are so tame they hardly fly at our approach.

We arrived at a little town, called Casa Colorada, about four o'clock this afternoon. This place is thirty-nine 537 yards from Albuquerque. Here our road leaves the river for the mountains toward the point east. As it will take two days to march to Manzana, the next and last point where we can procure any corn, we are encamped for the night; and shall here buy, and haul in our wagons tomorrow, the forage our animals will require to that town.

The citizens of Casa Colorada gave a ball this evening in honor of our coming. The sudden arrival amongst them of so many armed men is a matter of great astonishment.

The result of our observations, as regards the general appearance of the inhabitants of the country, made during these first forty miles of our march, may be stated in a few words. The dirty little villages through which we have passed, as well as those we have seen in the distance, have generally turned out their inhabitants en masse to get a sight at us. This gave us a sight at them. Had we been painters it would doubtless have been an interesting one; for men, women, children-motley assemblages-exhibited themselves to us in groups picturesque, as well as in crowds grotesque. Some blanketed, with sombreros and cigarritos; some with whitewashed and some with scarlet-dyed faces, some with rebosos, some nearly naked, some on house-tops shading their eyes with their hands, and some peering through chinks and crannies in the mud walls of their dwellings; but all curious as to whence we came and whither we were going. The national expression of *Quien sabe* appeared deeply written on every face. In no rancho or village have we seen a solitary indication of industry, cleanliness, or thrift since we left Albuquerque; and it may be remarked, parenthetically, that we have yet to see, in that town, the first evidence of these cardinal virtues. Indolence, squalid poverty, filth, and utter ignorance of everything beyond their corn-fields and acequias, seem to particularly characterize the inhabitants who are settled along the east bank of the river. We have seen nothing denoting energy on the part of any one, save that shown by the old man Chavis and his two sons-in-law. On the contrary, we could but observe amongst them what seemed to be a universal proclivity for rags, dirt, and filthiness, in all things; with sheer laziness and listlessness marking their every movement and all that they do. It may be said that the people whom we saw were of the lower order; but we were justified in coming to that conclusion from not seeing any of the better class.

Saturday, December 17, 1853.

We started this morning at eight o'clock. For about two miles our road lay up a gradually inclined plane, where we found ourselves on an almost level mesa that stretched uninteruptedly, eastward to the base

of those mountains which commence at the Sandia Peak and extend towards the south below El Paso del Norte.

This plain is sandy and entirely destitute of water. We saw several herds of cattle grazing upon it; but, so far as we could observe, there was very scanty pasture. Our guide, a Mexican, informed us that these herds are driven to the Rio Grande for water only once in two days. We saw but a solitary flock of antelopes, numbering some ten or twelve. This was midway between the river and the mountains.

The scenery, viewed from elevated points on this plain, was very beautiful. The Socorro and the Cibola ranges of mountains, and the distant peaks of others toward the north, were covered with snow, and gleamed in the sun with dazzling splendor. The long Sierras towards which we were now moving were also clothed in a winter-robe of white. They bounded the whole eastern horizon. Their tall summits and jagged outline, like a fringed edge, standing sharp and clearly defined against the morning sky, glowed in the light as if burnished with silver. While towards us, along their whole western slope - which descended toward the plain as a coast towards the ocean - the valleys and precipices reposed in cold blue shadows, chilly enough to make the beholder shudder in looking upon them.

Just before arriving at the foot of these mountains, we found a pond of water four hundred yards to the right of the road. Our guide informed us that in the dry season no water can be obtained at this place.

There are here two passes through the mountains; the one on the left hand going eastward, leading through a difficult canyon, is practicable only as a bridle path; the one on the right hand affords every natural facility for making a most excellent road for wagons.

These passes are known, in the language of the country, as Los Puertos de Abo. The summit of the right hand pass is nineteen miles and sixty-three yards from Casa Colorada, and lies east 20° south from that town. The road for this whole distance is by far the finest we had seen in New Mexico, and is not surpassed, in any point of excellence, by the celebrated shellroad at New Orleans.

The first outcropping of stone which we observed as we approached the mountains was of quartz, trap, and greenstone. These are surmounted by numerous strata of fossiliferous limestone, of good quality. These strata in some places are hundreds of feet in thickness. This latter formation prevails exclusively at the summit of the pass.

There is no timber of any kind to be met with until you come near the top of the mountains; the growth there is entirely of dwarfish piñon and stunted cedar.

We encountered snow half way up the pass. The scene presented by the column winding its circuitous route to the summit, with parts of it lost to view behind some jutting crag, or just emerging into sight from some deep gorge - the foreground filled with the dragoons moving upon different turns of the road, the sun glancing brightly on their appointments, - the towering snow-clad peaks on either hand the background the valley of the Rio Grande, with the distant mountains in the northwest marking with a serrated line the far off horizon - was a picture whose beauty will not easily be forgotten.

The general direction of the chain of mountains stretching northward of the pass toward Sandia Peak is north 10° west. The first elevated peaks southward of Sandia are called La Tetilla; the next La Sierra de la Manzana; then come Los Puertos de Abo; and then the high range still farther south which is known as La Sierra del Palo Duro.

From the summit of the pass for the first two or three miles the road is very circuitous. It then has an easy gradual descent for about three miles further, when you come to a deep canyon which lies entirely to the left, but in sight of the road, and at a distance from it of six or eight hundred yards. There, in the canyon, good sweet water is always found. This place is called Agua de Juan Lujan. Near this, but a few hundred yards further east, we passed a large spring of salt water. It is known by the Mexicans who travel the road as La Salada. Passing this, we next encountered, for some three or four miles, mesas of dark chocolate-colored sandstone, through which we wound our way to a point where the roads forked. We took that which leads to the left hand. In less than half a mile, our road lying up the dry bed of a wet-weather creek, we came to a fine streamlet of fresh water. This was fringed by a beautiful grove of cottonwood. At the distance of four hundred yards, after we struck the water, we came to the Ruins of Abo. Here we are encamped for the night.

At this time, when so many surveys are making from different points along the Mississippi toward the Pacific, with a view of ascertaining the best route for a railroad track, perhaps the suggestion may be of value that the Pass of Abo offers advantages in this respect which may not be found in any of the other passes through these mountains. They are certainly of sufficient consideration to make it an object to have this pass thoroughly explored before others shall be adopted. By directing the route from Anton Chico, on the Pecos river, immediately past the Ruins of Abo, and thence through the canyon by which the bridle-path lies that has already been spoken of, the open plain in the great valley of the Rio Grande can be reached without tunnelling a rod, and with no more difficulty as to the blasting of rocks and grading down to acclivities, than has been encountered on any of the ordinary railroads in the United States. Let the road be directed across the plain so as to pass the Rio Grande at the mouth of the Puerco River, thence up the valley of that river to its west branch, and up the valley of that branch to Laguna;

thence to Zuni, and from that point by the route which the indefatigable Whipple will without a doubt find, to the shores of the Pacific. These suggestions may possibly be of practical utility to those who are engaged in by far the greatest enterprise of modern times.

The Ruins of Abo consist of a large church, and the vestiges of many other buildings, which are now but little else than long heaps of stones, with here and there portions of walls projecting above the surrounding rubbish. There is yet standing enough of the church to give one a knowledge of the form and magnitude of the building when in its prime. The ground plan of this structure is in the form of a cross, its longitudinal direction being within ten degrees of the magnetic meridian. It was, perhaps, situated exactly upon that meridian when the building was erected--the variation of the compass accounting for the present difference. The great entrance was in the southern end. From thence to the head of the cross, where the altar was doubtless situated, it is one hundred and thirty-two feet, inside. This, the nave of the church, is thirty-two feet in width. The short arm of the cross, or what in cathedrals is called the transept is forty-one feet in length and twenty-three in breadth. The transept is sixty-six feet from the doorway. These measurements were made with a tape-line in a very high wind. The round numbers in feet are, therefore, only given, without noting the fractional parts of a foot.

The walls are of a great thickness, and their height is, at this day, in over half the structure, all of fifty feet. The upper edge of these walls is cut into battlements. The church, as well as the neighboring buildings now in ruins about it, was built of a stratified, dark red sandstone, such as crops out along the creek and makes its appearance on the sides of the surrounding hills. The pieces of stone do not average over two and a half inches in thickness, and are not generally over one foot in length. Each piece is of the form it had when it was broken from its native bed. We saw not a single dressed stone about the ruins. These stones are laid in mortar made of the ordinary soil from the ground immediately at hand. The roof of the church was evidently supported by beams and covered with earth, as in the churches still occupied at places of worship throughout New Mexico. We saw no signs of an arch, nor an indication that those who planned and built the church at Abo were at all acquainted with architecture as a science. The walls over the doors and windows, so far as we could observe, had been supported by beams of wood. When these had become destroyed, those stones which were liberated above had dropped down; so that now, over each window there is a rude sort of Gothic arch, owing its form, not to design, but to accident. The wood-work of the church was evidently destroyed by being burnt. Wherever in the walls portions of beams still remain they are found charred and blackened by fire.

The form of the church alone, proves it to have been designed by Christians. Perhaps the workmen employed in its construction were Indians.

We saw a distinct mark on an axe in one of the pieces of timber, which is imbedded in the east wall of the church some six feet from the ground. Saws also were doubtless used, but we discovered no marks of them. The stick of timber marked with the axe, and some beams that supported a landing at the head of the stairway which is made in the west wall, were the only pieces of wood about the ruins which were not burned so much over their surface as to obliterate all marks of tools.

The extent of the exterior wall, which, from the appearance of the present heaps of stones, once surrounded the church and the town, was about nine hundred and forty-two feet north and south, with an average width east and west, of say four hundred and fifty feet. A large population must have occupied this town and its neighborhood, if one were to judge of the number of people by the size of the church built to accommodate them at their devotions.

We saw few, if any, unmistakeable signs that the ground had been cultivated in the vicinity of these ruins. Nor is there any good arable land, so far as we could observe, at any point nearer the Rio Grande; for uplands to be arable, in the climate of New Mexico, must be so situated as to be capable of irrigation. The stream of water at Abo is in a deep ravine. It is very inconsiderable in point of size, and loses itself in the sand in less than five hundred yards below the springs which feed it. The adjacent country is rolling and broken, and covered with pinon and cedar. The underlying rocks are secondary red sandstone. The summits of the mesas and neighboring eminences are composed of grey limestone filled with marine fossils.

It was nearly night when we reached Abo. There was a keen freezing gale from the northwest, and the whole appearance of the country was cheerless, wintry, and desolate. The tall ruins, standing there in solitude, had an aspect of sadness and gloom. They did not seem to be the remains of an edifice dedicated to peaceful, religious purposes, a place for prayer, but rather as a monument of crime, and ruthlessness, and violence. The cold wind when at its height appeared to roar and howl through the roofless pile like an angry demon. But when at times it died away, a low sigh seemed to breathe along the crumbling battlements; and then it was that the noise of the distant brook rose upon the earlike a wail.

In the mystery that envelopes everything connected with these ruins - as to when, and why, and by whom, they were erected; and how, and when, and why, abandoned - there is much food for very interesting speculation. Until that mystery is penetrated so that all these questions can be answered without leaving a doubt, Abo belongs to the region of romance and fancy; and it will be for the poet and the painter to restore to its original beauty this venerable temple, to rebuild its altars, and to exhibit again unto us its robed priests, its burning censers, its kneeling worshippers.

Sunday, December 18, 1853.

It took us until half past nine o'clock this morning to complete our examination of the ruins. We then marched over a rolling and, in places, broken country twelve miles 760 yards, and in a general direction of N. 12° E. For the whole of this distance the country is covered with groves of cedar and piñon trees. We then came to the Ruins of Quarra. These appear to be similar to those of Abo, whether regarded with a view to their evident antiquity, the skill exhibited in their construction, their preservation at the present time, or the material of which they are built. They too are situated upon a small stream of water that soon disappears in the earth.

The church at Quarra is not so long by thirty feet as that at Abo. We found one room here, probably one of the cloisters attached to the church, which was in a good state of preservation. The beams that supported the roof were blackened by age. They were square and smooth, and supported under each end by shorter pieces of wood carved into regularly curved lines and scrolls, like similar supports which we had seen at the ends of beams in houses of the better class in Old Mexico. The earth upon the roof was sustained by small straight poles, well finished and laid in herring bone fashion upon these beams. In this room there is also a fire-place precisely like those we found in the Mexican houses at the present day.

We had heard that in a stone panel inserted in the front end of the church at Quarra we should find emblazoned the fleur-de-lis, the ancient armorial bearings of France; and many therefore supposed that possibly this church had been erected by French Catholics who had come as missionaries across the country from the direction of New Orleans. But we saw no panel, no fleur-de-lis, and no stone of any kind, that bore marks of a chisel or of a hammer. Every piece in the church, in the cloisters, and in the debris of a neighboring village, was in the same rough form which it had when it was broken from the quarry.

The course from Quarra to the town of Manzana is, W. 35° N.; the distance is four miles 1,145 yards. We now find ourselves at a very great elevation. The whole country is clad in a winter garb. The high Sierra de las Manzanas, and the towering pyramidal peaks called Las Tetillas, gleam with a depth, it is said, of more than two feet of snow.

The town of Manzana is situated at the base of the Sierra of that name, and a small rivulet which, in running eastward to the open plains, soon sinks into the ground. Several dams are constructed along this rivulet, to collect and retain the water for purposes of irrigation. The town is built partly of logs set on end jacal fashion, with the interstices filled with mortar, and with roofs covered with earth, and partly of adobes. It sports a very dilapidated church, erected, it would seem, as a practical antithesis to the morals of the inhabitants; for Manzana

enjoys pre-eminently the wide-spread notoriety of being the resort of more murderers, robbers, common thieves, scoundrels, and vile abandoned women than can be found in any other town of the same size in New Mexico, which is saying a good deal about Manzana. Fortunately it contains but few inhabitants, not more than five or six hundred at most. It is not an old town. When the first settlers came here they found two groves of apple trees, one just above the site now occupied by the town, and one just below. Tradition says these trees were planted at the time Abo and Quarra were inhabited; and yet, tradition has lost all trace of when that time was. It is said the Catholic church has lost all trace of when that time was. It is said the Catholic church of New Mexico claims that they were planted by some priests, but admits that it has no records or authentic traditions about the ruins we have visited. Her claim, however, that some priests did this at some period or other, is good enough to authorize her to farm out these two orchards yearly, as we were informed, to the highest bidder. Two of the largest trees in the lower grove were found to be respectively eight feet and six feet in circumference. The largest was hollow - a mere shell of an inch or two in thickness. These trees have a venerable appearance. They have never been pruned, and have, therefore, grown gnarled and seraggy. Many of them are much smaller than those which were measured. They have grown, doubtless, from seeds which have fallen from the older ones. Now long this process of self-planting has been kept up, of course, no one can know. Apple trees are not indigenous to New Mexico. Assuming it to be true, however, that the largest of these trees were planted at the period referred to, then the ruins of Abo and Quarra are more than two centuries old.

These two groves, or rather these two clumps of trees, are not standing regularly in rows and orchard-like; on the contrary, they are crowded together in the most irregular and natural manner.

The name of this town, and of the towering Sierra to the west of it, was adopted from finding these orchards here; Manzana being the Spanish for apple, and Manzano the botanical name in that language for apple tree. The name of the town is spelt indiscriminately in both ways throughout New Mexico.

Immediately about Manzana, and up the slope towards the high mountains west of the town, there is a pine forest many miles in extent, of most excellent timber for boards and for building purposes. Some twenty-five or thirty miles in an easterly direction there is a large salt lake, which has no outlet. This lake supplies nearly the whole of the upper portion of the territory with salt. There are fine roads leading towards it from different directions. We were informed that the bottom of the lake is covered with a sheet of solid salt, which, in the dry season, is some three or four inches in thickness. When the rainy season sets in, filling the lake with fresh water drained from the surrounding prairies, this sheet of salt is said to dissolve down to half this thickness. We were

DIARY OF MAJOR CARLETON (CONT.)

not prepared to examine and visit this lake. It lies directly off our route, and has neither wood nor fresh water within many miles of it. The proper time to go to it would be during the rainy season and when there is grass.

We had procured orders from the vicar general of New Mexico for what corn we should require at Manzana--corn which had been paid in by the peasantry as tithes (diezmos) to the Catholic Church. When we arrived there, we found that the corn belonging to the church was some six or eight miles off, at another village, called Torreon. So we were forced to buy on credit what forage we required.

Here we learned that a small party of Texans had recently been at the ruins of Gran Quivira in search of treasures. Whilst there they sent an Apache Indian in to Manzana for some articles they wanted. An American named Fry, a hunter, who lives at Manzana, went out to the ruins in company with two Mexicans to see these Texans; when he reached there he found them gone. He ascertained while he was gone that there was no water to be found at a pond where our Mexican guide expected we should find it, as it had dried up; and that unless we found another small pond some six or eight miles from that, and which our guide knew nothing about, we should be obliged to go without any, for he said there was probably no snow about the ruins, as about Manzana, which we could melt. So Fry was employed to pilot us to this pond, as failing to find it, we could obtain no water nearer to Gran Quivira than at the little stream at Quarra, which is a distance of thirty-five miles.

Monday, December 19, 1853.

This morning we loaded the wagons with all the corn they would hold; but it did not amount to over two days' feed, as our other supplies had to be taken along besides. In addition to this the dragoons put into their haversacks enough for their horses for one night. We started about ten o'clock in the morning and retraced our steps toward Abo, to a point on the road known as Arroyo de la Cienega - a dry bed of a wet-weather stream. This is nearly two miles below Quarra. Here we left the beaten track and took a course across the country in the direction of E. 40° S. After travelling some six miles we struck an Indian trail which leads from Manzana to the country of the Mescalero Apaches. This we followed in the same general direction to some holes in the rocky bed of another wet-weather stream called Las Aguachas. These often contain water enough for a small party with animals, but we found them quite dry. One, only, had a small cake of ice, but no water. They are 13 miles 1,022 yards from where we left the road. The country for this distance is quite barren. It has but little grass, but is covered with the tall branching cactus, and with scattered clumps of pinon and cedar trees. On our right hand, for the last third of this distance, we have had a mesa covered with timber to its summit, which is called La Mesa de los Tumanes. It is improperly laid down upon the maps as a Sierra, or mountain range. It runs

from west to east, commencing a few miles south of Abo and ending in a point on the plains about fifteen miles east of Las Aguachas; where we cross over it by ascending gradually through an open prairie, which can easily be seen from the place where we left the road below Quarra.

The stone that crops out at Las Aguachas is a remarkably fine sandstone, suitable for grindstones and wetstones. The best is at the upper end of the ravine where the last pool of water would be found in the wet season.

When we reached this point it was nearly night. A cold piercing wind was blowing, and it was yet some miles to the place where we hoped to find water. The wagons were some two or three miles behind; Major Carleton pushed on with the squadron, having Fry for a guide, to find the pond before dark; leaving Lieutenant Sturgis with twelve men at Las Aguachas, to wait for the wagons, and then follow with them on the trail. The Mexican guide stayed with the Lieutenant, that he might track the squadron after night should set in. After travelling a little over five miles, the squadron arrived at the water. It was found in a deep hollow in the open prairie. The pond is not over eighty or one hundred yards in diameter, and might easily be missed after dark even by one acquainted with its locality. The water is fresh and sweet. This pond is nearly a mile from timber. It lies immediately off against the mouth of a pass through the Mesa de los Tumanes, and is known to the shepherds as La Laguna de la Puerta, the Lake of the Pass. Here we made holes in the ice, and, having watered all the horses, moved up into the pass, where we found wood in abundance, and very good protection from the cold wind. We soon had large fires burning, which served as a beacon to the lieutenant, who was behind bringing up the wagons. Shortly after dark he arrived. One of the wagons was immediately unloaded and sent with the water-kegs to the lake; the men taking lanterns to see to get the water through the ice. By ten o'clock that night our horses were groomed and fed, the men had their suppers, and large piles of pinon wood were blazing the whole length of the camp, giving it a cheerful and picturesque appearance.

This camp is twenty-five miles and 90 yards from Manzana.

Tuesday, December 20, 1853.

As we knew it would be quite impossible to march to Gran Quivira and make the necessary observations there and back to the laguna in one day, it was decided to rest this forenoon, and to fill the kegs and India rubber water-tanks with water, and then to march to the ruins in the afternoon; to encamp near them to-night; to employ the forenoon of tomorrow in their examination; and then to return to-morrow evening to this place. In this way our animals would not be without water more than a day and a half. We accordingly broke up our camp about half-past twelve o'clock. After we had filled our kegs and tanks at the laguna, we ascended a high ridge for a mile or more, when our guide

pointed out to us what he said was the great church or cathedral, at Gran Quivira. It was in an air line all of thirteen miles distant, and yet we could see it distinctly with the naked eye. We could have seen it easily when five or six miles further off, had there been no obstruction to the view; a proof of the remarkable clearness of the atmosphere in this elevated region. It lies S. 5° E. by the compass from Laguna de la Puerta, and served for a land-mark towards which to direct our march. Our course was a very straight one; for the country which is an open rolling prairie, offered no impediment to our moving in a right line. The weather changed to be very cold during the afternoon; when near sunset a fierce wind arose from the direction of the snow-clad mountains in the west, and a cold vapor like a cloud came over the country, enveloping everything in a dense fog, and covering men and horses with a hoar frost. It was feared that the gale would charge into one of those dreadful winter northers which are sometimes experienced in this country, and which are so fatal to men and animals when exposed to their fury on the open prairie. So the direction of the march was changed, that we might get the shelter of the timber on the slope of the Mesa de los Tumanes, which stretched along our right at a distance of not more than three or four miles. This we struck very opportunely, just as night was setting in. We soon had large fires blazing, and all our horses well blanketed and picketed on the leeward side of them, to get the benefit of the heated air and of the eddy in the wind from the long line of tents. In this way they were kept from suffering, although the night was uncommonly cold and inclement.

So still another day has passed away, and the ruins are not yet reached. Quivira would seem always to have been a difficult place to arrive at. We find in Castaneda's history of the expedition into this country made by Francisco Vasques de Coronado, in 1540, '41, and '42, that that general was forty-eight days in hunting for it, starting from some point between the Rio Grande and the Gila River. All the way from Albuquerque we have asked the people of the country where the ruins were situated; How they looked; Who built them; etc. etc., etc. To all these questions we could seldom get a more definite reply than "Quien sabe?" It seemed as if the genii who, in the Eastern tale at least, are said to guard the depositories of great treasures, were determined to make the existence of such a place as Gran Quivira as much of a problem to us as to the Mexicans themselves. We had seen, before the fog set in, an edifice in the distance, which had seemed to move away as we approached it, like the weird lakes of water in a mirage. But to-morrow, at all events, will decide for us whether that edifice be a Fata Morgana or not.

Wednesday, December 21, 1853.

At daybreak this morning every tree and spire of grass, and even the blankets upon our horses, were covered with ice. The trees seemed as if every twig was made of frosted silver. The wind had gone down, and overhead the sky was clear; but a heavy bank of fog extended all along the east

obstructing our view of the Sierra de las Gallinas, which bounds the horizon in the direction. It was long ere the approaching sun waded up through so dense a veil.

Soon after we left camp we again saw the cathedral of Gran Quivira; but in surmounting one eminence after another as we moved along over a rolling country, the ruins, phantom like, seemed to recede before us the same as yesterday. When we first saw them this morning they appeared to be about a mile and a half distant, when in reality they were more than five miles off. The last three of these five miles' travel was over nothing but a succession of sand hills covered with a tall coarse grass, with two or three heads on each stalk, which seemed to be peculiar to this place. The horses sank more than fetlock-deep into the soft yielding sand; while it was with great difficulty that the mules, at a senile's pace, drew the wagon along.

At eleven o'clock in the forenoon we came to the last high ridge on the point of which the ruins are situated. This ridge is composed of dark blue compact limestone, which crops out in several places along its slopes. The ascent is quite abrupt on every hand, except towards the east; the ridge is prolonged in that direction for several miles. We all felt rejoiced that finally we had reached a place about which so much had been written, and yet so little had really been known.

Whatever may have been the grandeur and magnificence of that place in ages long past, its present appearance and condition are easily described.

We found the ruins of Gran Quivira to consist of the remains of a large church, or cathedral, with a monastery attached to it; a smaller church or chapel; and the ruins of a town extending nine hundred feet in a direction east and west, and three hundred feet north and south. All these buildings had been constructed of the dark blue limestone which was found in the vicinity.

The cathedral, which we had seen from Laguna de la Puerta, is one hundred and forty feet long outside, with the walls nearly six feet in thickness. It stands longitudinally W. 15° S., with the great entrance in the eastern end. The altar was in the western end. Like the churches at Abo and Quarra, it is constructed in the form of a cross. From the doorway at the foot of the cross to the transept, it is eighty-four feet seven inches; across the transept it is twenty-one feet six inches; and from thence to the head of the cross it is twenty-two feet seven inches; making the total length, inside, one hundred and twenty-eight feet eight inches. The width of the nave is twenty-seven feet; the length, inside of the short arm of the cross, is thirty-six feet. A gallery extended along the body of the cathedral for the first twenty-four feet. Some of the beams which sustained it, and the remains of two of the pillars that stood along under the end of it which was nearest to the altar, are

still here; the beams in a tolerably good state of preservation--the pillars very much decayed; they are of pine wood, and are very elaborately carved. There is also what, perhaps, might be termed an entablature supporting each side of the gallery, and deeply embedded in the main wall of the church; this is twenty-four feet long by, say, eighteen inches or two feet in width; it is carved very beautifully, indeed, and exhibits not only great skill in the use of various kinds of tools, but exquisite taste on the part of the workmen in the construction of the figures. These beams and entablatures would be an ornament to any edifice even at the present day. We have cut one of the beams into three parts, to take back with us. The entablatures are so deeply set in the walls that we are unable to procure a piece of them. The beams are square, and are carved on three sides; the floor of the gallery rested on the fourth side.

The stone of which the cathedral was built was not hewn, nor even roughly dressed; but the smoothest side of each piece was laid to the surface with great care. We saw no one piece in all the ruins which was over a foot in length. The mortar was made from the ordinary soil found upon the spot; it affords but a poor cement to resist the action of the elements and the ordinary ravages of time.

The walls of the cathedral are now about thirty feet in height. It was estimated, from the great quantity of stones which have fallen down, forming a sort of talus both within the walls and outside of them, that, originally, this building was all of fifty feet in height. There is a small room to the right as you enter the cathedral, and another room, which is very large, and which communicates with the main body of the building by a door at the left of the transept. There was also communication between this large room and the monastery, or system of cloisters, which are attached to the cathedral. The chapel is one hundred and thirty feet from the cathedral. This building is one hundred and eighteen feet long, outside, and thirty-two in width; its walls are three feet eight inches in thickness; it is apparently in a better state of preservation than the cathedral, but yet none of the former wood-work remains in it.

A short distance from the chapel there is an enclosure, which we supposed was the ancient cemetery.

The remains of the town are but heaps of stones, with here and there some evidences of narrow streets running nearly east and west, and north and south. Through these stones pieces of beams and sticks of wood are seen to project; these indicate, by moss and otherwise, that they are of very great antiquity; they are bleached white by the weather, and are deeply gnawed by the tooth of time.

We saw some deep pits, which were circular, and walled around like wells; we believed them to be the remains of cisterns--they were not deep

enough for wells; some have concluded that they were estufas. Two hundred and ninety feet north of the cathedral there are evident traces of an estanque; this, as well as the cisterns, was probably made to collect the rain-water which ran from the different buildings.

Toward the east we saw a well defined road, which kept the ridge for a few hundred yards, and then turned off toward the southeast, where all further vestiges of it are lost in the sand. Where it is the most plainly marked along the summit of the ridge some large cedar trees are growing directly in the middle of it; these trees look to be very old indeed.

In every direction about the ruins we found great quantities of broken pottery, many specimens of which we have collected to take to Albuquerque. Some of it is handsomely marked and well glazed. We also found several stones which were evidently once used as matates. These matates are in use to this day, to rub boiled corn upon until it becomes a kind of dough, suitable to be kneaded into cakes called tortillas. We have selected two, which we shall take home with us. These prove to us that the ancient inhabitants of Gran Quivira knew the use of corn as an article of food.

There is no sign that the ground in the vicinity has ever been cultivated, and no mark whatever of irrigating ditches. Indeed, an acequia, or open aqueduct, could not, it is believed, have brought water to the Gran Quivira, for the point occupied by the town appears to be considerably higher than the surrounding country.

We were informed by men at Manzana who had been pastores in their youth, and had herded sheep in this region of country, that there is a fine bold spring of water at the base of the Sierra de las Gallinas, about fifteen miles from the ruins, and that they had heard that water once ran in an aqueduct from that spring to the Gran Quivira. This would hardly have been possible, unless the aqueduct was a closed pipe; because, from appearances, the country intervening between those two points is considerably lower than either of them.

We saw no indications that there had ever been such an aqueduct, nor did we see any sign that wells had been digged in the neighborhood. From every feature of the country, both within and without the surrounding sand-hills, we could but be lost in conjecture as to the method adopted by the inhabitants to obtain even water to drink, let alone for purposes of irrigation, unless they were supplied by some spring or stream that has long since disappeared. The nearest point where water can always be obtained now, is the spring which the pastores spoke of as being at the base of the Sierra de las Gallinas, fifteen miles away. The Laguna de la Puerta is 14 miles 773 yards from Gran Quivira, in nearly a direct line; but this is said to become entirely dry in seasons of great drought.

As at Abo and Quarra, we were surprised at not finding, in the cathedral and chapel, some of the doorways and windows surmounted by an arch. Had they been so, originally, these buildings would be in a better state of preservation. The beams across windows and doors, in giving way to the weight above as they became decayed, made a fair beginning towards letting down the whole superstructure.

Mr. Gregg, in speaking of the ancient ruins of New Mexico, says: "The most remarkable of these are La Gran Quivira. This appears to have been a considerable city, larger and richer by far than the capital of New Mexico has ever been. Many walls, particularly those of churches, still stand erect amid the desolation that surrounds them, as if their sacredness had been a shield against which time dealt his blows in vain. The style of architecture is altogether superior to anything at present to be found in New Mexico. What is more extraordinary still is, that there is no water within less than some ten miles of the ruins; yet we find several stone cisterns, and remains of aqueducts, eight or ten miles in length, leading from the neighboring mountains, from whence water was no doubt conveyed. And as there seem to be no indications whatever of the inhabitants having ever been engaged in agricultural pursuits, what could have induced the rearing of a city in such an arid woodless plain as this, except the proximity of some valuable mine, it is difficult to imagine. From the peculiar character of the place, and the remains of cisterns still existing, the object of pursuit, in this case, would seem to have been a placer--a name applied to mines of gold-dust intermingled with the earth. Other mines have, no doubt, been worked in the adjacent mountains, as many spacious pits are found, such as are usually dug in pursuit of ores of silver; and it is stated that in several places heaps of scoriae are found.

"By some persons these ruins have been supposed to be the remains of an ancient pueblo, or aboriginal city. This is not probable; for, though the relics of aboriginal temples might possibly be mistaken for those of Catholic churches, yet it is not presumed that the Spanish coat of arms would be found sculptured and painted upon their facades, as is the case in more than one instance. The most rational accounts represent this to have been a wealthy Spanish city, before the general massacre of 1680, in which calamity the inhabitants perished--all except one, as the story goes,--and that their immense treasures were buried in the ruins. Some credulous adventurers have lately visited the spot in search of these long-lost coffers, but as yet (1845) none have been found."

There is no indication that the escutcheon of Spain was ever sculptured or painted on any facade about the ruins; and the facts, as regards the style of architecture and the remains of an aqueduct, do not, as is shown by this journal, agree with his statement. Mr. Gregg must have described the appearance of this place from what he heard about it; for on all those subjects of which he wrote from personal observation he is most excellent authority.

Pedro de Castaneda accompanied Francisco Vasquez de Coronado in his great expedition to the north in search of gold. He wrote a history of the campaign. General Vasquez de Coronado arrived in a country which was called Quivira, in the month of June, 1542. If the present ruins of Gran Quivira are in a region identical with the Quivira then visited, it may be of interest to state that Castaneda says of it and of its inhabitants:

"Up to that point the whole country is only one plain; at Quivira, mountains begin to be perceived. From what was seen, it appears to be a well peopled country. The plants and fruits greatly resemble those of Spain; plums, grapes, nuts, mulberries, rye, grass, oats, pennyroyal, origanum, and flax, which the natives do not cultivate, because they do not understand the use of it. Their manners and customs are the same as those of the Teyas; and the villages resemble those of New Spain. The houses are round, and have no walls; the stories are like lofts; the roofs are of straw. The inhabitants sleep under the roofs; and there they keep what they possess."

The manners and customs of the Teyas, to which he likens those of the people of Quivira, are described as follows:

"These natives are called Querechos and Teyas. They live under tents of buffalo skins tanned, and subsist by the chase of these animals. These nomadic Indians are braver than those of the villages; they are taller, and more inured to war. They have great troops of dogs, which carry their baggage; they secure it on the backs of these animals by means of a girth and a little pack-saddle. When the load becomes deranged, the dogs begin to bark to warn their master to adjust it. These Indians live on raw meat, and drink blood; but they do not eat human flesh. Far from being evil, they are very gentle, and very faithful in their friendships. They can make themselves very well understood by signs. They cut meat in very thin slices, and dry it in the sun; they reduce it afterwards to a powder, to preserve it. A single handful thrown into a pot answers for a meal, for it swells greatly. They prepare it with the fat which they preserve when they kill a buffalo. They carry around the neck a great intestine filled with blood, which they drink when thirsty. If they open a buffalo, they squeeze the masticated grass which is found in the stomach, and drink the juice which runs out; they say that this is the whole substance of the belly. They open a buffalo at the back, and divide it at the joints, by means of a piece of pebble attached to the end of a stick, with as much facility as if they used a knife of the best steel."

The present ruins are not the remains of the round houses with roofs of straw, which Castaneda describes as the dwellings of the inhabitants of Quivira, three hundred and twelve years ago; and if they had had in those days instruments to shape and carve these beautiful beams and pillars, and entablatures, they would hardly have used pebbles at the ends of sticks in

cutting up the buffaloes which they had killed. Besides, the matates we have found are almost positive proof that the people who once resided here ate as food tortillas made of corn; while, from Castaneda's account one is obliged to believe that the inhabitants of the country which he calls Quivira lived entirely upon the flesh of the buffalo, as the Comanches do at the present day."

Castaneda says likewise that: "The Indians of the country had neither gold or silver, and were not acquainted with the precious metals. The Cacique wore on his breast a plate of copper, which he held in the greatest esteem."

Many have supposed that the ancient Aztecs built the edifices at Gran Quivira, Abo and Quarra, during their migration from Aztlan toward Anahuac; and that the ruins now found in the Navajo country, and the Casa Grandes which are still to be seen along the Gila River, were built by the same people and at about the same period of time. Captain Johnson, of the first dragoons, visited the ruins of the Gila river, in November, 1846; from his description of one of the Casa Grande, the largest and best of any he saw, we can discover no point of resemblance between it and those now before us. Captain Johnson says: "After marching six miles, still passing plains which had once been occupied, we saw to our left the Casa de Montezuma. I rode to it, and found the remains of the walls of four buildings, and the piles of earth showing where many others had been. One of the buildings is still quite complete, as a ruin. The others had all crumbled but a few pieces of low, broken wall. The large Casa was fifty feet by forty, and had been four stories high; but the floors and roof had long since been burnt out. The charred ends of the cedar joists were still in the wall. I examined them, and found that they had not been cut with a steel instrument. The joists were round sticks. There were four entrances, north, south, east, and west; the doors are about four feet by two. The rooms had the same arrangement on each story. There was no sign of a fireplace in the building. The lower story was filled with rubbish; and above, it was open to the sky. The walls were four feet thick at the bottom, and had a curved inclination inwards to the top. The house was built of a sort of white earth with pebbles, probably containing lime, which abounded on the ground adjacent; and the surface still remained firm, although it was evident they (the walls) had been exposed to great heat from the fire. Some of the rooms did not open to all the rest, but had a hole a foot in diameter to look through. In other places were smaller holes." Clavigero, the historian, believes that this great movement of the Aztecs from the north towards the south commenced about the year of our Lord 1160, and that Casa Grandes were built by them at various halts which they made in their circuitous journey towards the valley of Mexico. It has been shown that in 1542 there were no buildings of the size and character of the Casa Grandes, or such as are found here now, in all the country called Quivira, which Castaneda visited and described. So one must conclude that, so far as the Aztecs are concerned, whatever they may have had to do with the building of the

edifices either in the Navajo country, or on the Gila, or those found 250 miles northwest of Chihuahua, they never planned or constructed those at Gran Quivira.

History represents that Vasquez de Coronada, finding no gold during his great expedition, returned to Mexico, where he fell into disgrace and died in obscurity.

The Spaniards did not return to colonize the province of New Mexico until the year 1581; and the country could not be considered as conquered until 1595. For eighty-five years after this the colony seems to have prospered and to have grown in power. Towns and villages were built, and valuable mines of gold and silver were found and worked with success. The Catholic clergy were aided in their efforts to convert the Indians to christianity by the government, at whose expense large churches were erected in different parts of the province of New Mexico, corresponding with the missions, which were built for the same purpose and at about the same period in the other provinces of Texas and California. It was during this time, doubtless, that the large edifices at Abo, Quarra, and Gran Quivira were erected. It is more than probable that valuable mines of the precious metals were found in their vicinity, and worked under the direction of the Spaniards by the Indians who had been subjugated; for there is every reason to believe that the mountains east of the Rio Grande are at this day rich in gold and silver.

It appears that during these eighty-five years the Spaniards treated the Indians with the most cruel oppression, until finally the latter revolted against them. The night of the 13th of August, 1680, was the time set throughout all New Mexico, when the Indians should rise and make an indiscriminate massacre of all the Spaniards in the country. This plot was made known to Don Antonio de Otermin, then the governor and military commandant of the province, by two Indians chiefs. Every effort was made for defence and to avert the coming storm, but without success. The Indians rose as agreed upon; after various conflicts, they destroyed great numbers of the inhabitants; and, finally, by the latter end of September of that year, succeeded in driving all the rest, with Governor Otermin included, to El Paso del Norte, entirely beyond the confines of the territory.

We have been informed that there is now a tradition amongst the Indians, that as soon as their forefathers had become successful in expelling the Spaniards, they filled up and concealed all traces of the mines where they had toiled and suffered for so many years; declaring the penalty to be torture and death to any one who should again make known their locality.

Old Mr. Chavis, who overtook us soon after our arrival at Gran Quivira, informed Major Carleton that he had been told, when in his youth, by very old people, that a tribe of Indians once lived here called the Pueblos of

DIARY OF MAJOR CARLETON (CONT.)

Quivira; that the Spanish priests came and lived amongst them, in peace and security, for twenty years; that during this period these large churches were erected; and that at the time of the great massacre there were seventy priests and monks residing here---all of whom were butchered excepting two, who contrived to make their escape; that, previous to their massacre, the priests had had intimation of the approaching danger, and had not only buried the immense treasures which had been collected, but had concealed likewise the bells of the churches; that many years afterwards the people of Quivira died off until but few remained; that one of these, a descendant of the chief, knew where the treasures were buried; that the remnant of the tribe afterwards emigrated and joined other Pueblos below El Paso; and that many years ago an old man, one of the last of the tribe, had told in what direction from the church these great treasures had been concealed. So far as the building of the churches and the massacre of the monks and priests are concerned in this account, as well as the final decrease and removal of the people who once lived here, there is no doubt but the story told by Mr. Chavis, is, in the main, correct. The account of the depositories of the bells and the treasure is said to have been written down as given from the lips of the last cacique of Quivira, who, at the time he made the disclosure, was living away below Mesilla, on the Mexican side of the river. A copy of this paper has been secured, and is here inserted in the original language, for the benefit of those who may take an interest in such matters.

"En el Semetario de la Parroquia grande en el centro del costado derecho segun la figura numero uno esta una entrana escarbando estan dos campanas tomando la linea de la abertura que dejan las dos companas se bera al oriente para el callejon que deja la eglesia vieja y el pueblo una lomita a distancia de trescientas varas mas o menos que no hay otra que forme linea con las campanas debajo de dicha loma hai un setano de diez o mas varas retacado de piodras el cual tiene el gran tesoro.

"Nombrado por Carlos quinto de la Gran Quivira."

*(Footnote: "In the cemetery of the great parish church, in the centre of the right side, according to figure number one, there is a pit, and by digging will be found two bells. By taking the line of the opening left by the two bells, the line of the opening left by the two bells, there will be seen to the east, along the lane left by the old church and the town, a hill, at the distance of three hundred yards, more or less, which forms precisely a line with the bells. At the foot of said hill is a cellar of ten yards or more, covered with stones, which contains the great treasure. "Mentioned by Charles Fifth of Gran Quivira.")

The grammar of this document is preserved, as in the original. There can be no doubt but the belief that a large amount of gold and silver has

been buried here, has for a great number of years been seriously entertained. We find in the cathedral and in the chapel, in every room in the monastery, in every mound of stones in the neighborhood, and in every direction about the ruins, large holes dug, in many places to the depth of ten feet, by those who have come from time to time to seek for these hidden treasures. Some of these holes look as if they were made more than a century ago, while others appear to be quite recent. Even the ashes of the dead have not been left undisturbed during these explorations. Near the east end of the chapel we saw where the people who had been digging had thrown up a great many human bones, which now lie scattered about. From these we have selected six skulls to send to some one who is skilled in the science of craniology, that he may determine, if possible, to what race of people they once belonged. These skulls are thought to be unusually large.

The ruins of Gran Quivira have hitherto occupied the same position with respect to the boundless prairies which the fabulous island of Atlantis did to the ocean in days of antiquity. No one seemed to know exactly where this city was situated. But the uncertainty of its locality seemed to make no difference in regard to the interest that was felt concerning it; for people would believe in its existence, and receive great pleasure in listening to traditions about its marvellous beauty and magnificence, even when to a reasonable mind those traditions and accounts ran counter to probability.

Men of genius and distinction have taken great pains in following up mazes in the labyrinth of reports concerning it, whether oral or written, and in their glowing descriptions it has appeared almost like a city of enchantment. To them it had paved streets, and fluted columns, and ornate friezes, and sculptured facades; it had the remains of aqueducts and fountains; it had long colonnades, and even barbaric statuary; it had the groined arch, the shouldering buttress, the quaint gargoyle, and everything in outline and in detail that could betoken skill, and taste, and opulence. It was a city, they said, whose inhabitants departed from it so long back in the gloom and mists of the past as to leave in utter obscurity all other records concerning them.

The sphynx, they said, about whose bosom the sands from the Lybian desert had drifted for unknown centuries, was no more of an enigma than this was. Here were palaces and temples, and deserted courts, and long-echoing corridors, and grass-grown streets, and reigning over all a silence so profound as almost to be heard.

Historical societies had taken up these descriptions, and filed them away among their transactions as documents of deep interest. Venerable and learned ethnologists searched in dusty manuscripts and black-lettered volumes of antiquity for some authentic account of that race of men who reared and then abandoned such a city. But to this moment their researches have proved fruitless, and the story they seek is still recorded in an

unsealed book.

Our business is not that which will permit us to clothe with imaginary grandeur these vestiges of a people whose name has been erased from the book of nations, nor that which will allow us time to indulge in abstruse speculations as to their race or their language. These things belong to the poet and philosopher. With all those pleasant reveries and romantic fancies which these ruins away here on a desert are so wonderfully calculated to awaken we can have nothing to do. We came here to note realities; and now the facts we have seen, the theories we have read which were of value, the traditions we have heard deserving of attention, and the conclusions to which we have come concerning this interesting place, are all written down. All else save the things we saw admits of doubt, and is obscured by so dark a cloud of uncertainty as to leave much ground for new theories, and for, perhaps, infinitely more valuable conclusions.

We found that the Mescalero Apaches, with whom we had some business of interest, had all gone far towards the south. Our guide, who was a captive amongst them for eight months, gave us some information as to their strength in warriors, which is worthy of record. He says they live in small bands, or families, in order to distribute themselves over a greater extent of country for purposes of hunting. When they are engaged in war, or upon any other enterprise of importance, these bands become united. When separated, they are each controlled by a sub-chief; when acting in concert, they choose a head-man to direct affairs for the time being. The following list shows the name of each of these sub-chiefs and the strength of his band of fighting men:

Santos has forty men;
Josecito has nine men;
Barranca has nineteen men;
Negrito has twenty men;
Jose Largo has fifteen men;
La Pluma has thirteen men;
Santana has nineteen men.

Two chiefs who live in the Sacramento mountains, whose names are unknown, have fifty men.

Add to these the ten sub-chiefs, and we have in this tribe two hundred and eight men capable of bearing arms.

They are represented as having many good rifles, and as being most excellent shots. Living in the neighborhood of the great thoroughfare that leads from Texas to California, and having mountain fastnesses in which to take refuge when pursued, they are able, and very willing, to do a great deal of mischief.

DIARY OF MAJOR CARLETON (CONT.)

From Gran Quivira, the northern point of the Sierra Blanca bears by the compass S. 30° E., and is distant about fifty miles.

The highest point of the Sierra de las Gillinas bears E. 5° N., and is distant about fifteen miles.

The peaks known as Las Tetillas bear N. 36° W., and are distant about fifty-five miles.

We left the ruins about three o'clock in the afternoon, and retraced our steps to the Laguna de la Puerta, where we arrived an hour after dark.

Thursday, December 22, 1853.

To-day we returned to Manzana, over the same track we had made to the Laguna. Here we encountered a snow-storm. This town is so elevated that hardly a cloud passes the mountains that does not shower upon it either rain, snow, or hail. From what we have observed during our second visit to this place, this Botany Bay of New Mexico, we have concluded that our former estimate of the character of the inhabitants was premature and ill-judged; we now believe that there is not one single redeeming trait of disposition or habits to be found within its borders.

Friday, December 23, 1853.

Our course to-day was about N. 10° W., and lay along the eastern slopes of the Sierra de la Manzana. We faced a snow-storm for nearly the whole forenoon, and were therefore unable to observe much about the features of the country. Six miles 729 yards from Manzana we passed a small mountain stream running towards the east--a mere brook, that is soon lost in the ground. On this there is a little village called Torreon. Two miles, 1,181 yards further north we passed another similar brook, and another small town called Tagique. From this last place, over a rolling, broken, and well timbered country, we marched to a small hamlet called Chilili. This town, like Torreon and Tagique, is situated upon a mere rivulet, running from the mountains to the open plains towards the east. Here we encamped in the snow, and suffered much during the whole night from a cold wind from the north.

Saturday, December 24, 1853.

This morning, before we left camp, an old Mexican brought us some ore, which he said is to be found in great abundance near the Tetilla Peaks, but that it is now covered so deeply in the snow as to be difficult to be procured. We believe the specimen he gave us contains silver. When the snow has melted, it will be worth the trouble, perhaps, to explore these mountains thoroughly, with a view to the discovery of precious metals.

DIARY OF MAJOR CARLETON (CONT.)

After travelling north for about two miles this morning, we turned off toward the west, by a road that leads to Albuquerque by the Cañon del Infierno. As we ascended the eastern slope of the mountain, we passed through extensive groves of large pine-trees, suitable for boards and other building purposes. The snow was a foot in depth, and the air dry and cold, as in midwinter in the extreme north. The Canyon del Infierno is 10 miles 562 yards in length. It is very circuitous. The mountains rise abruptly thousands of feet above it on either hand. This makes it a pass of great ruggedness, as well as of a wild and picturesque beauty. Half-way down through it we came to a fine spring of water. The rocks are the same stratified, fossiliferous limestone, which we saw at Los Puertos de Abo. From the mouth of the Cañon del Infierno to Albuquerque, the road descends through an open prairie, entirely destitute of water for the whole distance, which is 20 miles 492 yards.

We arrived at Albuquerque at 8 o'clock in the evening, having marched today 36 miles 317 yards.

PREHISTORIC VILLAGE AT SAGUARO NAT. MON.

By Charlie R. Steen, Jr. Park Nat.

On August 19th I visited Saguaro National Monument to inspect some prehistoric village sites which had been reported from that reservation. With Mr. Charles MacGuire, project landscape architect, as a guide I visited two sites.

The first site visited was a shallow rock shelter in the NW $\frac{1}{2}$ of Section 33 T 14 S, R 16 E. The shelter is located under an overhanging rock some 30 feet in length and has a SE exposure. A few sherds and flakes of stone are to be seen on the ground surface, together with a great deal of charcoal which has impregnated the ground. This site is located within 100 yards of the loop road now being constructed but as it lacks importance it would be worthless to attempt to develop it as an added attraction along the road.

After leaving the rock shelter we rode along tortuous and rough trails into Section 4 of T 15 S, R 16 E, to a long spur which extends southwest from the Tanque Verde Mountains.

There is a village of approximately fifty houses located along the top of this ridge, six of which and one trash mound have been dug by unauthorized persons. The floor plans of the dwellings are rectangular and average about 12' x 18' feet. Rains have destroyed the floors of the houses which have been dug but if the digging stopped at floor level the house floors were from two to three feet below the present surface of the ground which has apparently changed very little during the time

PREHISTORIC VILLAGE IN SAGUARO NATIONAL MONUMENT (CONT.)

since the village was abandoned.

Entrances were made by cutting a ramp from the ground surface to floor level about midway along one of the long sides of the house. The superstructure of the house rested on a foundation of stone slabs set on edge in parallel rows around the excavation with the interstices filled with adobe. Some of the foundations are still standing more than 1.5 feet above the present surface of the ground.

A small stream comes down from the Tanque Verdes and flows along the arroyo north and west of the site. The water sinks into the ground at about the upper limits of the village but at that point the arroyo widens, to form a flood plain with an area of approximately 60 acres. Water is no doubt just under the surface over the entire extent of the flat. The land could be farmed today without the aid of irrigation and it is quite likely that the inhabitants of the village on the ridge above cultivated this patch of land. The arroyo on the opposite side of the spur is dry; a typical desert growth of mesquite and cactus prevails in contrast to the ash and arrow weed of the aforementioned valley.

Located in sections 3, 2, and 1 of the same township, and on similar spurs, are at least four other sites according to Mr. MacGuire. Lack of time prevented a visit to any of these others.

Recommendations:

The village visited, and apparently the others in the string, are just outside the range of the saguaro cactus and there is no particular scenic value to the immediate vicinity. Judging all by the one example, they possess no outstanding characteristics which would call for development so that visitors might see them. All the villages, however, are of a fairly good size and so far only one has been pothunted and it seems very desirable to me to protect the sites from vandals of the Tucson area. The sites are rather difficult of access at the present time, but the Pima County highway department is seriously contemplating the construction of a road which would pass about a mile from the westernmost of the villages. One of the houses in this site was undoubtedly opened last winter and a graded road a short distance away would certainly mean more vandalism. It will be impossible to patrol effectively the area due to the fact that the ranger for this monument is appointed for only eight months and has his headquarters some eight very bad miles away. The persons who have been doing the digging are known and the only feasible method of putting an end to their activities on the monument, I believe, is to take the matter up with them personally.

LETTER FROM THE HENNINGS

(The following good letter was received from our good friends,
the Hennings)

Dear Boss:

A letter seems a weak and ineffective way of showing our appreciation for the fine two months and half we spent mostly among the Southwestern Monuments this year, but a letter it must be, so here it is.

Here at our cabin, so many miles from the desert, where it is always cool and green, and we have a clear mountain river running past our door, our memory of the problems and discomforts you encounter there in the Southwest grows a little vague. But time and distance do not dim our remembrance of the heart-warming friendliness with which we were received, nor of the splendid scenery we have seen, and the way the Indians, both of the past and of the present, have been "brought alive" before our eyes.

Our first experience among the Southwestern Monuments, as you know, was last summer, when we visited Canyon de Chelly, almost reached Be-ta-ta-kin, and stopped at Natural Bridges, Aztec Ruins and Chaco Canyon. We have told you how very impressed and thrilled we were with these first visits, except for our failure to quite reach Be-ta-ta-kin. The latter experience seemed very unfortunate at the time, but as is often the case, it proved a blessing in disguise, as it was indirectly the cause of our coming to know you and the others we have met this year.

Our tour of the Monuments this summer began around the first of May at Chiricahua. There was no Custodian there at that time, but Mr. Ollinger and Mr. Harris took care that we saw the sights, and bore patiently with our innumerable questions. We feel that the fine new trails are a real asset at this Monument, as one must really get out among the rock formations to realize their size and variety. The excellent camp ground is also a decided advantage in the eyes of those of us who like to live with the Monuments a day or two.

We see that Mr. Fish, whom we met at Montezuma Castle, has been made Custodian at Chiricahua, and wish him all success in the Monument he has undoubtedly, by now, dubbed "the finest in the Southwest."

Our next stop was Tumacacori, very different from any other Monument we had visited, and very interesting to compare with the California missions we had seen. We were delighted to find that we could camp there, and enjoyed our view of the Mission especially in the late evening and early morning light. Although the next day was Louis Caywood's day off, he and Winnie spent the entire morning in showing us the Mission, which we thought pretty nice of them.

A day later we were back, having left our axe at our camp spot, and finding that a good excuse for returning for another chat with the Caywoods. They took us in as if we were long-lost friends, and we talked Southwest, pictures, Indian baskets and postage stamps till midnight.

In the meantime we had visited Saguaro, and how we wish that everyone could see it at the time of year we did. Flowers everywhere; on the saguaro, though only a few of them were open, of course; in many colors on the cholla; and the palo verde trees in all truth a "shower of gold." Nothing is more miraculous to us than the tremendous vitality of life and beauty in the so-called "desert".

Our visit there at Headquarters came next, and again we wish to express our appreciation for the friendly kindness shown us there. We feel that one reason the list of Southwestern Monuments fans is a growing one, in addition to the inherent interest of the places themselves, is because the members of the personnel are never too busy or too tired to seem to really enjoy talking Southwestern Monuments to anyone who is really interested.

Our visit to Casa Grande and what we learned there of the culture in the Gila and Salt River Valleys opened up to us a whole new chapter in Indian life of ancient times. We had not realized, from our visit in the Four Corners region last year, how extensive and important an Indian population there had been farther south. One of the most valuable aspects of our trip this year is that it correlated a great many things which had been hanging at loose ends in our minds before.

From Casa Grande we went via Phoenix and the Apache Trail to Tonto. There we camped two nights beside a flowering palo verde tree about half way up the entrance road, and two nights, at different times, at the parking area, and we thoroughly enjoyed that lovely view at different times of day.

We visited the lower ruin at Tonto with a party taken up by Woody Spires, and enjoyed that a lot, but the trip to the upper ruin, where he took us alone, was even more interesting. It was our first adventure in a ruin that had never been excavated or pot-hunted, and naturally our imaginations worked overtime with ideas of what might lie beneath our very feet.

At Montezuma Castle we were cordially received by Mr. and Mrs. Jackson, and, as usual, we camped and spent several days. We were surprised and pleased to find Charlie Steen there, and it was he who gave us our very interesting trip through the ruin.

While we were camped at Montezuma Castle we made a trip to Tuzigoot, and there we found Charlie, on his day off, taking pictures.

HENNINGS' LETTER (CONT.)

Instead of going out along the Mogollon Rim as we had planned, we surprised Woody down at Tonto by dropping in there again on our way back to Las Cruces for the second part of our trip.

Our next Monument, of course, was White Sands. We found, as everyone does, we suppose, that no amount of description can prepare one for that unbelievable expanse of whiteness or for the lovely contour of the dunes. After driving in to the turn-around, and hiking on the sands awhile, we spent an hour or more talking to Mr. Dougherty, who showed us the interesting collection of White Sands formations he is making in preparation for the proposed museum.

We would have enjoyed camping at the Sands, as we know it must be especially beautiful in the late evening and early morning light, but we found the glare and heat a little too much without any shelter, so we regretfully traveled on. Stopped at Alamogordo for an hour's chat with Mr. and Mrs. Charles, and while we were there we saw the birds and mammals Mr. Borell had collected and mounted.

The next part of our journey brought us to Gran Quivira. We came upon it unexpectedly, as we thought we were still some distance away. We had seen few pictures of Gran Quivira, and had heard little about it, so we were amazed at its size and dignity as it stood there above us in the late sunlight.

We enjoyed our visits with Mr. and Mrs. Boundey and their boys, and camped within view of the ruin. Mr. Boundey took us on an extended tour, and we walked around the pueblo site quite a bit by ourselves. That is another place where one's imagination can picture all sorts of buried archaeological treasure, even though there has been so much digging for treasure of other sorts.

From Gran Quivira we went to Bandelier. When we arrived there we suddenly discovered that we were tired after two months of nearly steady travel, which had included our rather strenuous trip in the Big Bend. So we set up housekeeping in the fine campground there, and stand ready to recommend the showers and the laundry trays!

It was several days before we visited the ruins, as we wished first to digest some of the information we had received earlier, so we just loafed and enjoyed the beauty of the Canyon. Mr. Hendron loaned us a copy of Bandelier's "Delight Makers", and reading that right on the spot added greatly to our enjoyment. We felt, as Mrs. Richey said, that we could actually pick out the rooms in which the different characters had lived.

We were pleased at being in the first party Mr. Hendron guided all the way to the Ceremonial Cave this year, and we walked around the ruins and up and down the Canyon several times by ourselves. Mr. Peterson

arrived while we were there, and we were glad to meet him, as well as all the others there at Bandelier. When it came time to leave, after almost two weeks, it seemed almost as if we were leaving home.

On our way back through Albuquerque we stopped off for a few minutes to see Earl Jackson and to tell him how much we had enjoyed his Monument. We were very glad to learn that he was improving, and we think that his sense of humor will be one of the things that will help him through the time when he will so want to be back at work. We are counting on hearing reports that he is constantly improving. Betty was not at home, and we were sorry, for we were looking forward to meeting her, also.

A night at Petrified Forest, where we met the Christmans, budding Southwestern Monuments fans just down from Chaco, and we reached Walnut Canyon. The Christmans came in there too, and we spent about a week there together. Paul Beaubien took us for a fine trip around the Canyon, little Heidi Christman and all. We enjoyed the talks with Paul, and the pines, and didn't mind bringing our water out from Flagstaff.

One of the high points of our summer's trip was the Navajo Sing to which Jimmie Brewer took the Christmans and us. We drove over from Walnut Canyon in the morning, and our first couple of hours were devoted to the ruins. Jimmie had told us that the building material was red rock, so we were not as surprised at that as we would otherwise have been, but we were completely unprepared for the fine view of the Painted Desert.

When we all entered the hogan where the sand painting was being made, the Indians looked rather sober for a few minutes, and Jimmie told us they said, "Not good." Jimmie's influence with them seems to be very strong, however, for they let us stay. It was an intensely interesting experience, and surprisingly impressive to those of us who have been educated to think so differently. Doubtless the secret of its impressiveness was the fact that the men themselves seemed so in earnest - not that they didn't laugh and joke among themselves, but that they seemed to really believe in what they were doing. Even little Heidi was overawed, and quiet as a mouse.

Our visit to Wupatki also marked our first "social contact", so to speak, with Indians. Jimmie induced us - we were much more shy than the Indians - to sit down and talk with them. Soon all was going smoothly, with Sarah and Clyde Peshlacai playing very nicely the part of host and hostess. It was the first time we had ever visited any Indians "at home", and we were much interested in the cooking, spinning and weaving. We were also surprised to find that the women were just as interested in Mrs. Christman's knitting of a pink sweater for Heidi as we were in their weaving, and they hung over her quite breathlessly to see how it was done.

HENNINGS' LETTER (CONT.)

Sallie was away when we visited Wupatki, so we didn't meet her, but we hope for better luck on our next trip in that direction.

Sunset Crater we visited on our return trip to Walnut Canyon, and we spent only a short time there, as it was growing late. We hope next time to hike to the top.

From Walnut Canyon we went to the South Rim and thence to the North Rim of the Grand Canyon, there to await the arrival of the Forbes. They and Mrs. Forbes' sister, Miss Renfro, arrived on June 30, and a day later we were on our way to Be-ta-ta-kin. We went in by way of Shonto, and spent some time sitting on that surprisingly and refreshingly green grass at Mr. Rorick's, under the shade of his mulberry trees.

As you know, we reached Be-ta-ta-kin this time without difficulty, and what an experience it was to spend several hours there. It was Miss Renfro's first look at a cliff dwelling. Can you imagine seeing Be-ta-ta-kin for your very first cliff ruin?

We were sorry not to meet Milton Wetherill while we were there, but we noted that Mr. Bernheimer's name was just ahead of ours on the register, and concluded that Mr. Wetherill was out with him somewhere. Upon reading the July Report we found that our conjecture was correct.

After camping that night on the slick rock up by the hogans, we headed for Marsh Pass and Kayenta. Much to our surprise, upon following what seemed to be the main traveled road, we got off the road we had traveled both in and out last year. We had gone some distance before we realized it, and as we were going in the right direction we decided to go on and see if it wouldn't come into the Marsh Pass road. We were delighted when it did come out on the highway, right by an abandoned hogan, as we had been dreading that last bad hill and the sand pile at its foot - by far the worst part of the road over which we were directed last year. Is the road we took out a new one, Boss? A little farther on toward Kayenta we found a still different road, with the official Park Service sign for Be-ta-ta-kin, and doubtless would have found a sign directing us onto that road had we not taken the road out we did.

That night we camped in Monument Pass. The Forbes had met the Gouldings two years ago, so they stopped in there to say hello. Mr. and Mrs. Goulding said they'd be up for a chat later, and shortly after dark they arrived. We sat around a small camp fire, and we talked Southwest, and the full moon came up behind those remnants to the east of the Pass, and - well, Boss, you know how 'tis.

The next night we were camped above Arches Canyon on the road in to Natural Bridges. Mrs. Johnson and Zeke came by in the evening on their way to the Bridges, and after talking to Zeke we now have ideas buzzing around in our heads about seeing more of Arches Canyon itself. The next

HENNINGS' LETTER (CONT.)

morning we drove in to the Bridges, and Zeke accompanied us on the hike around the triangle, and could have walked our feet off had he wished. He carried a large water bag, which was a great boon when our small canteen was empty, and whenever we seemed a little tired he talked Navajo to us. We had intended to go only to the Augusta Bridge and back, but Zeke made it so completely plausible that it was much easier to go around by the Caroline that we'd have felt foolish to go any other way.

Thus ended our tour of the Monuments for 1936. We had intended to return to Canyon de Chelly, and to Mosa Verde and thence to Aztec and Chaco, but it was drawing on toward the rainy season, and we had traveled 5,000 miles since the first of May, so we decided we'd have to leave those Monuments, together with the ones we've never seen, for next time.

We wonder, as we think back over this, whether we have stressed too much the joys of camping in the Monuments. That really is part of the fun, though, and we feel that one must see the Monuments in different aspects to really appreciate them. Personally, we'd like to see them at all seasons of the year - yes, even the rainy season, if we didn't have to worry about the roads out.

In conclusion, we wish to assure you, Boss, that we fully realize, and that the fact has been impressed upon us, that we have visited seventeen of "the finest Monuments in the Southwest - or in the country - or in the world". That is, all except one. Paul Beaubien told us to be sure to tell you that Walnut Canyon was the worst Monument - so that no one would try to take it away from him! We feel that you are to be congratulated on being the Superintendent of twenty-five such Monuments, and that it is not alone our privilege but our duty to make our record complete by seeing all the rest.

Best regards to you and all our other Southwestern Monuments friends, and we shall look forward to renewing acquaintance on our next trip in that direction.

Sincerely Yours,

RUTH & MILLARD HENNING

After writing the article on the death of R. H. Kern I read some Utah history and found that I had made a few mistakes. The date of the Gunnison Massacre was 1853 instead of 1854, Gunnison was a captain instead of a lieutenant, and it took place on the Sevier River instead of on the Gunnison. These facts are confirmed by Charles Kelly, so I believe they are surely correct this time.....

RUMINATIONS

I had really thought, since I am to meet you in the north part of my district in a couple of days, that I could rush off at the last minute in a great hurry and leave Charlie to write the Ruminations this month, Chief, but Charlie is pretty sharp about getting out of trouble and I think he suspected my intentions, for he has been pressing me two or three times this morning to "get those Ruminations off your chest because Luis is riding that new Royal high, wide, and handsome on those stencils and he will be calling for your stuff this afternoon."

There isn't much to say about headquarters affairs except that we have cut over to the new electricity this month and are now on a 60 cycle alternating U. S. Indian Service power line. This allowed us to hook up the new electric refrigerators and bid the local ice man a fond farewell. It looks like there is going to be a material saving to the funds by this change and the electric refrigerator has other advantages which the house wives crow over, so everyone but the ice man seems happy over the change. This completes the installation of refrigeration in the quarters of all our permanent employees and by next year we hope to extend it into the most trying of the temporary quarters.

It seems such a short time ago, and as a matter of fact it isn't so many years, since we were so proud of our home made ice boxes and the fact that we could really have ice out here on the desert. Now they are obsolete. Times change! I heard a coyote wail out here in the brush the other night and I felt like going out and kissing him for I imagined he was thinking of the 'good old days' and I was willing to throw in with him and wail a little too, though I expect we would be pretty soft if we were suddenly set back into those good old days. Most of the wailing we here these nights is the static breaking in on KTAR.

It looks like we are really going to get a museum and administration building at Tumacacori out of PWA funds and Gov. and I are going over to Santa Fe from our meeting with you to sit into a discussion with Ansel Hall and Chuck Richey and Art Woodward on any changes to be made in the preliminary plans before the working drawings go on the board. Wish you could come along and enjoy the fireworks. We can't get these boys interested in deep cases with movable backs, and they seem to always want to circulate their visitors to the left and have a lot of other funny ideas. I don't want to play the carping critic too much, but in these times it seems we can't start a museum with less than \$20,000 worth of specialists and cases. Isn't it lucky we didn't know that back in the days when we were running twenty thousand visitors a year through a museum whose cases cost less than fifty dollars and whose labels and maps cost nothing at all? And isn't it good that the visitors didn't know they ought not to enjoy that kind of a museum? Times change! If we weren't getting soft we would have two or three more museums of that old fashioned type working.

Let it be distinctly understood that I am for the specialists and the

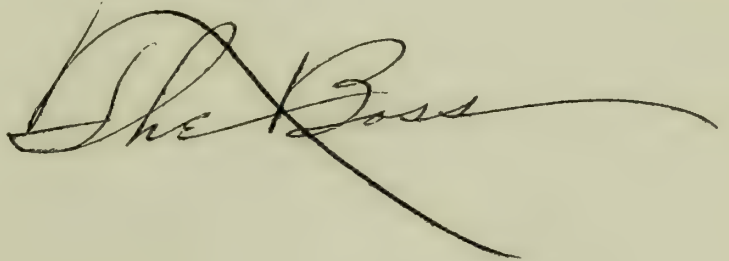
RUMINATIONS (CONT.)

glass cases but don't let us fool ourselves into believing that visitors come to the new type of museum to see either one. If our plans work out we are going to have a lovely building at Tumacacori and the many displays are going to be striking, we think we will be able to build a real impression on the visitor's mind, but I am willing to go on record now with the statement that we can't hold him ten minutes longer in that building than we can at the Casa Grande museum. We will deepen his impression that it is a very wonderful and interesting visit, but I doubt if he can write down any more statements of fact which he has learned than he can after going through the Casa Grande museum. I will be very happy if the visitor statistics prove me wrong in all these statements.

If Tom Charles had a prehistoric ruin under his charge instead of a lovely sand pile, he would have caught what I mean when I said taking care of the visitor was the second most important thing we had to do in the Park Service. Protection was the first duty I had in mind, and then, after we get protection, so future generations can enjoy the Monument with as little disintegration, destruction and vandalism as possible, our second duty lies toward the visitor. If you don't believe this let me ask what would happen if one visitor started to cut down a tree in your camp ground or write his name on a prehistoric wall or build a camp fire on top of Tom's beautiful sand dunes, when you were starting to show some other visitors around? Protection would come first and you would show your visitors around later, of course.

and now August passes over into September and we will be able to take the second story off the office thermometer and expect it to stay within the first hundred degrees and we can begin to look forward to the fall and winter work.

Cordially,

A handwritten signature in dark ink, appearing to read "D. H. Bass". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

SOUTHWESTERN MONUMENTS MONTHLY REPORT

SEPT., 1936.



DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

SEP. 10 1886

SOUTHWESTERN MONUMENTS

SEPTEMBER 1936, REPORT

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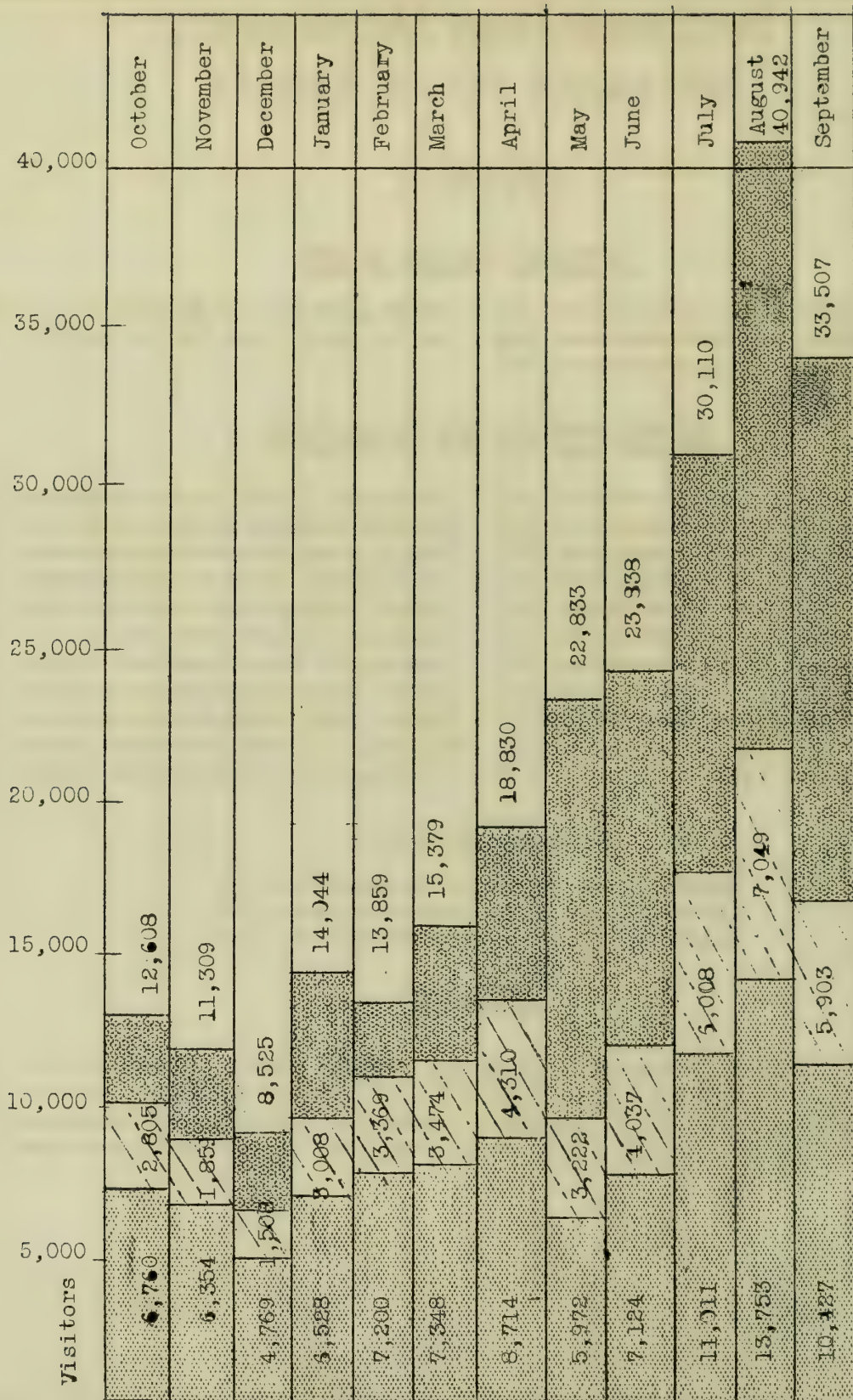
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SERVICE CHART 1936

SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent; Hugh M. Miller, Assistant Superintendent; James Luther, Chief Clerk; J. H. Tovrea, Assistant Engineer; Robert H. Rose, Assistant Park Naturalist; Dale S. King, and Charlie R. Steen, Junior Park Naturalists; Millard Singerman, Clerk-Stenographer; Luis Gastellum and W. H. Sharpe, ECW Clerks.

FIELD STATIONS

1. Arches - Moab, Utah. J. M. Turnbow, Custodian.
 2. Aztec Ruins - Aztec, New Mexico. Johnwill Faris, Custodian;
Oscar Tatman, Acting Ranger.
 3. Bandelier - Santa Fe, New Mexico. Jerome Hendron, Acting Custodian.
 4. Canyon de Chelly - Chin Lee, Arizona. Robert Budlong, Custodian.
 5. Capulin Mountain - Capulin, New Mexico. Homer J. Farr, Custodian.
 6. Casa Grande - Coolidge, Arizona. W. J. Winter, Custodian;
J. D. Erskine, Ranger.
 7. Chaco Canyon - Crownpoint, New Mexico. Thomas C. Miller, Custodian.
 8. Chiricahua - Willcox, Arizona. Frank L. Fish, Custodian;
Homer Bennett and Bronson Harris, CCC Guides.
 9. El Morro - E. Z. Vogt, Custodian. Ramah, New Mexico.
 10. Gila Cliff Dwellings - Cliff, New Mexico. No Custodian.
 11. Gran Quivira * Gran Quivira, New Mexico. George L. Boundey, Custodian.
 12. Hovenweep - Cortez, Colorado. No Custodian.
 13. Montezuma Castle - Camp Verde, Arizona. Martin L. Jackson, Custodian.
Russell Farmer, Ranger.
 14. Natural Bridges - Blanding, Utah. Zeke Johnson, Custodian.
 15. Navajo - Kayenta, Arizona. John Wetherill, Custodian.
 16. Pipe Spring - Moccasin, Arizona. Leonard Heaton, Acting Custodian.
 17. Rainbow Bridge - Rainbow Lodge, Arizona. No Custodian.
 18. Saguaro - Tucson, Arizona. No Custodian.
 19. Sunset Crater - Flagstaff, Arizona. J. W. Brewer, In Charge.
 20. Tonto - Roosevelt, Arizona. Frank Horne, Acting Ranger; Frances
Stevenson.
 21. Tumacacori - Box 2225, Tucson, Arizona. Louis R. Caywood, Custodian.
 22. Walnut Canyon - Flagstaff, Arizona. Paul Beaubien, Ranger.
 23. White Sands - Alamogordo, New Mexico. Tom Charles, Custodian.
 24. Wupatki - Flagstaff, Arizona. J. W. Brewer, Ranger.
 25. Yucca House - Cortez, Colorado. No Custodian.
-

VISITOR YEAR 1936

	FIELD TRIPS					MUSEUM TRIPS					TOTAL EDUCATION	
	Number	Attend	Time	Ave. Att.	Ave Time	Number	Attend	Time	Av. Att.	Av. Time	CONTACTS	TRAVEL
October	1,045	6,760	52,074		49.8	389	2,805	7,780		20.0	9,565	12,608
November	1,072	6,354	52,382		48.8	295	1,859	6,000		20.3	8,213	11,309
December	926	4,769	46,277		49.9	284	1,508	5,680		20.0	6,277	8,525
January	964	6,528	39,975		41.4	461	3,008	9,220		20.0	9,536	14,044
February	1,141	7,200	46,955		41.1	474	3,369	9,680		20.4	10,569	13,859
March	1,274	7,348	55,323		43.4	535	3,474	9,914		18.5	10,822	15,379
April	1,486	8,714	64,809		43.6	642	4,310	12,411		19.3	13,024	18,830
May	1,095	5,972	52,341		47.8	614	3,222	11,841		19.2	9,194	22,833
June	1,555	7,124	72,399		46.5	784	4,037	15,405		19.6	11,161	23,838
July	2,100	11,011	86,232		41.0	1,129	6,008	24,135		21.3	17,019	30,110
August	2,410	13,735	94,286		39.1	1,178	7,049	24,504		20.8	20,784	40,942
September	2,089	10,427	77,557		37.1	1,121	5,903	21,483		19.1	16,330	33,507
TOTAL	17,157	95,942	740,610	5.6	43.1	7,906	46,552	158,053	5.8	19.8	142,494	245,784

CONDENSED REPORT

Coolidge, Arizona
October 1, 1936

The Director
National Park Service
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for August:

TRAVEL

	<u>September, 1936</u>	<u>September, 1935</u>	<u>September, 1934</u>
Aztec Ruins	1,972	1,891	1,673
Bandelier	1,965	1,594	1,492
Capulin Mountain	4,500	5,000	2,500
Casa Grande	2,045	1,691	1,429
Chaco Canyon	1,041	875	670
Canyon de Chelly	217	153	102
Chiricahua	709	576	6,530
El Morro	423	240	300
Gran Quivira	503	545	328
Montezuma Castle	1,234	1,782	1,839
Natural Bridges	89	87	200
Navajo	46	---	131
Pipe Spring	518	472	284
Sunset Crater	808	665	---
Tonto	338	338	305
Tumacacori	1,093	937	788
Walnut Canyon	1,672	1,214	1,124
White Sands	14,005	3,644	---
Wupatki	329	250	194
Actual Reported			
Registration	33,507	21,954	19,889

The completion of major highways and the improvement of many secondary roads, plus an increasing general interest by the public seem to be the contributing factors in a steady increase in traffic to the Southwestern Monuments. Practically every monument shows a substantial gain in number of visitors over the figures submitted for Septembers of 1934 and 1935. A glance at the annual travel reports for the year 1934-1936, given on the next page, shows a corresponding gain. The Casa Grande and Tonto figures are exceptions. It may be significant that travel at Casa Grande has remained at practically the same level for three years. Does this mean that there is a saturation point of visitors? Casa Grande is the only monument in our system which has had direct contact with a through, improved highway for several years and is that with a given travel over a road, only a certain percentage will stop and drive a mile of spur road, no matter how good it is, to see or learn something of a prehistoric ruin. A similar situation exists at Tonto. The Apache Trail has been for several years

CONDENSED REPORT (CONT.)

an excellent gravelled road with many mountain grades and curves. Again, a constant percentage of tourists seem to leave the paved highways to take a road which is principally scenic in character, and of these another portion which seems to remain the same each year will leave the Trail to view the cliff-dwellings at close hand.

The suggestion left by the visitor figures from these two monuments is that as road programs in the Southwest are completed that in a few years we may be able to forecast the travel at some of our monuments and hit the visitor count within a hundred individuals.

This is gratifying news at Headquarters. We believe that travel in the monuments is too heavy when compared with the personnel at the various stations. If the travel is really leveling off and will remain constant for at least a few years, we will have a chance to build up the custodial force at monuments which are undermanned and fill some of the glaring holes at points which have little or no protection at present.

As has been stated in the Report on several occasions, the first duty of a custodian or ranger is towards the conservation of areas under our protection; ruins must be protected against vandalism and erosion, forests must be saved from destruction caused by careless campers and natural pests and even Tom Charles' Great White Sands, upon which the sun shines so beneficently, should be closely watched so that a patina of empty cans, bottles and papers will not grow over the gleaming surfaces of the dunes. A man who is being kept busy talking to visitors from six to ten hours a day has no time to carry on an effective program of protection for his monument.

This is the reason we are happy that there seems to be a leveling of the curve of visitor traffic in the offing. Practically every one of the Southwestern Monuments shows an almost pitiful need for conservation. We could put a large archeological and engineering crew in the field and keep them constantly busy for the next ten years stabilizing ruins. Any archeological or historical site which is badly in need of repairs must necessarily be damaged if several thousand people a year go tramping through the rooms, leaning against walls, and tearing floors with leather-soled shoes. We are glad to know that the public is interested in the education and recreation which we offer, but we do not intend to go out into the highways and attempt to persuade a large portion of the traveling public that it should see our ruins, at least until we are better equipped.

(CONDENSED REPORT, CONT.)

Annual Travel Report:

	<u>1936</u>	<u>1935</u>	<u>1934</u>
Arches	400*	300*	275*
Aztec Ruins	12,984	10,738	9,457
Bandelier	12,944	12,381	9,457
Canyon de Chelly	1,091	988	650*
Capulin Mountain	19,950	24,000*	22,000*
Casa Grande	27,744	27,345	26,776
Chaco Canyon	7,717	6,565	6,068
Chiricahua	6,015	6,420	15,331
El Morro	1,898	2,475	2,800*
Gila Cliff Dwellings	100*	100*	75*
Gran Quivira	5,974	4,649	4,342
Hovenweep	200*	200*	125*
Montezuma Castle	10,654	14,919	18,619
Natural Bridges	628	700	750
Navajo	363	446	675*
Pipe Spring	4,218	4,896	8,544
Rainbow Bridge	550*	430*	390*
Saguaro	15,000*	9,900*	2,500*
Sunset Crater	4,853	5,688	2,500*
Tonto	5,908	5,350	7,005*
Tumacacori	14,119	13,081	11,238
Walnut Canyon	10,962	11,328	10,000*
White Sands	89,833	33,912	33,900*
Wupatki	2,201	1,369	1,080*
Yucca House	400*	300*	150*
Total	254,706	198,480	195,392

* Estimated

020 GENERAL WEATHER CONDITIONS

Rains have been general throughout the Southwest during September and general range and water conditions are better than they have been for several years. Heavy rains on the 12th caused the largest flow of water in twelve years to flow down Rhyolite Canyon in Chiricahua National Monument. Water has been flowing from the mouth of Canyon de Chelly, rendering the canyon impassable to travel. Several bad floods have occurred at the Natural Bridges, one of which stranded the Custodian and a couple of visitors at different points in Armstrong Canyon for several hours.

121 INSPECTIONS BY THE SUPERINTENDENT

The Superintendent visited the following monuments during September:
Walnut Canyon, Pipe Spring, Arches, Capulin, Bandelier, Gran Quivira,

CONDENSED REPORT (CONT.)

121 INSPECTIONS BY THE SUPERINTENDENT (CONT.)

White Sands. He also inspected Canyon de Chelly in company with Director Cammerer, Superintendent Smith, and Assistant Engineer Tovrea.

123 INSPECTIONS BY NATIONAL PARK SERVICE

Canyon de Chelly * Superintendent Pinkley, Director Cammerer, Sup't. Smith, J. H. Tovrea, J. W. Hamilton, Johnwill Faris, Richard Sias, Clinton Rose, Deric Nusbaum.

White Sands - Frank Pinkley, Adrey Borell, Jack Diehl, Luis Gastellum.
Chiricahua - Jack Diehl, J. H. Tovrea, W. W. Yeager, Hugh Miller, Mr. Strieby, Auditor.

Wupatki - N. A. Butterfield.

El Morro - W. W. Yeager, W. H. Wirt, Assistant Director Bryant and family.

Capulin - Superintendent Pinkley, Charles N. Gould, W. H. Vandiver, Charlie R. Steen.

Walnut Canyon - Superintendent Pinkley, Carl Schmidt, C. A. Rollins, W. W. Yeager, W. H. Wirt, H. C. Bryant, Adrey Borell, Charlie R.

Steen, John H. Diehl, J. H. Tovrea, N. A. Butterfield, Dale King.

Aztec - W. H. Wirt, W. W. Yeager, Ansel Hall, J. W. Hamilton, Underhill.

Bandelier - Superintendent Pinkley, W. G. Carnes, Charles Richey, J. H. Tovrea, Art Woodward, George Collins, Cecil Doty, Milton Swatec, Lyle Bennet

Tonto - Charlie Steen

Casa Grande - W. W. Yeager, F. M. Strieby

Chaco Canyon - W. H. Wirt and W. W. Yeager; J. W. Hamilton

Pipe Spring - Superintendent Pinkley, Al Kuehl, Dr. Gregory, Vincent Vandiver, Isabel F. Story, George Parker, Charlie Steen, George Collins

125 OTHER GOVERNMENT OFFICERS

Canyon de Chelly - Senator Carl Hayden

Wupatki - Senator Carl Hayden

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

Canyon de Chelly - White House trail work was completed during the month and rim road repair work started. The latter is about 50% complete.

Concrete slab roof for the pump house poured and a frost proof box built over the valves.

Restroom in garage completed.

Wupatki - Road sign standards painted and entrance roads dragged during the month.

CONDENSED REPORT (CONT.)

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION (CONT.)

El Morro - A third coat of copperas on the cement steps has given them a color closely approximating that of the sandstone. An application of the weather proofing solution developed by Martius has been asked for in order that the old inscription on El Morro might be treated. Custodian Vogt claims that the inscriptions have faded noticeably during the past 25 years.

230 NEW CONSTRUCTION

Chiricahua ECW - 1800 yards of rock are being removed in order to repair the Bonita Canyon road after a rock slide which occurred during heavy rains on the 12th.

Echo Point - Rhyolite Canyon trail connection advanced 700 feet. Connection between Massai Point and Echo Point completed, start made on the connection to Sara Deming Trail.

Walls completed to full height on Headquarters Ranger Station, lintels, plates, beams, rafters and floor joists are in place. Foundations for equipment shed poured.

Work at the rock quarry continued during the month.

Wupatki - Parking area moved to prevent the constant repair work made necessary by washing after rains.

Bandelier -

One exhibit case for the Museum has been completed and installed.

Quarters No. 2 completed.

Equipment Shed project complete.

One root cellar complete.

Geology and directional signs for Wupatki and Sunset Crater National Monuments completed and shipped; work now being carried on the Walnut Canyon and Aztec signs.

Rock quarry crew at work all month.

Large quantity of rock chiselled and shaped.

Wet weather has forced continuous road maintenance during the month

320 COOPERATING GOVERNMENT AGENCIES

Chaco Canyon - Soil Conservation Service resumed operations on flood control with thirteen men, one dump truck and three teams.

320 NON-GOVERNMENT AGENCIES

Chaco Canyon - School of American Research is roofing Great Kiva at Casa Rinconada. The School is working with PWA funds and plans to continue operations all winter.

Chiricahua - Three rattlesnakes sent to the University of Michigan for identification. The custodian is conducting a class in Forestry at CCC camp NL-2-A.

Casa Grande - 5 snakes have been shipped to U. of Mich. for identification.

CONDENSED REPORT (CONT.)

320 COOPERATING GOVERNMENT AGENCIES

Pipe Spring - The detail of CCC boys from the Grazing Division Camp at Pipe Spring worked on minor projects around the Monument until the 18th, the last day of the seventh period.

350 DONATIONS AND ACCESSIONS

Tumacacori - Mr. George Cann of Amado, Arizona, donated an old cannon ball, a prehistoric mortar and a Mexican or Papago bread board.

440 INSECT CONTROL

Casa Grande - The borer which is infesting the mesquite trees on the Monument has attacked practically every tree in the reservation according to W. W. Yeager. Yeager and Dr. DeLeon are to make a thorough survey of the situation during the first few days of October in order to plan a campaign against the infestation.

480 MISCELLANEOUS

Tumacacori - Custodian Caywood gave an illustrated talk to the Nogales Rotary Club; the subject was "Sonoran and Arizona Missions".

El Morro - The largest pinyon crop in the Southwest in several years is keeping a large part of the animal population (including the humans) out in the pinyon forests gathering a good winter supply of nuts.

MAIL COUNT

Incoming:		
Government	1,455	
Personal	693	
Total Incoming		2,148
Outgoing:		
Government only	1,716	1,716
Telegrams:		
Incoming	48	
Outgoing	38	
Total telegrams		86
Grand Total		3,950

Cordially,

Frank Pinkley,
Superintendent.

REPORTS FROM MEN IN THE FIELD

CANYON DE CHELLY

By Robert R. Budlong, Custodian

Visitors for the month of September numbered 217. This quite upset the dope sheet, since the month of June was believed to be the peak month, as it was last year. This month, however, we not only exceeded June travel this year, but had more visitors to this Monument this month than in any other month since I have been stationed here.

Our 217 visitors took trips as follows:

TRIP:	NO. TRIPS:	NO. PERSONS:	TOTAL TIME	AVERAGE TIME PER TRIP:
Rim:	38	129	4,440 m.	117 m.
Trail:	1	13	180 m.	180 m.
Car in Canyon	25	65	5,325 m.	213 m.
Horseback:	2	5	1,080 m.	540 m.
Office:	5	15	585 m.	117 m.

Of the car trips within the canyons, 13 were made by the concessioner, carrying 30 persons; 12 were made by other cars, carrying 35 persons. Two of these last trips were made by the Government car stationed at this Monument.

Weather has been about normal for this time of year, though the canyons have been passable for cars equipped with standard tires for only a few days. At present water is flowing from the canyon mouth, and has been doing so for some days.

Temperatures are slowly dropping lower, and we have a fire in the fireplace every evening. Maximum for the month, 90 degrees, on the 8th; minimum, 39 degrees, on the 18th. Total rainfall, .41 inch. While we have had no heavy rains right at Chin Lee, there have been numerous heavy downpours in the nearby vicinity.

The Navajos have had a good crop of canyon peaches this year, and many wagons drove into the canyons, returning heavily loaded with peaches. The pinon nut crop promises to be exceptionally good.

The Indian School at Chin Lee opened for the season on the 8th, with attendance about the same as last year.

During the month some additional work was done on the White House trail, and work was started on the south rim road. At present the trail work is complete; the rim road approximately 50% complete. The concrete roof slab for the pump house was poured, and additional rock work done on

CANYON DE CHELLY (CONT.)

the walls, which have now been carried to roof level. A frost-proof (we hope) box was installed over the valves governing the filling, drain, and house supply pipes on the water system, and water meters will be completely installed within a few days.

The restroom built in the southeast corner of the garage, begun some time ago, was completed this month, with the exception of the pouring of the concrete floor. This will be done the coming week. All water connections and sewer connections have been made, and all ditches back-filled. This work has all been done under the supervision of Doc Gipe, and as you know, this means that the work has been mighty well done.

Noteworthy visitors were numerous this month. On the afternoon of the 2nd, the Boss and Tovrea arrived. We had a good visit and then celebrated in the evening by driving to the canyon rim and seeing the canyon by moonlight. The following afternoon Director Cammerer and White Mountain Smith arrived, and we all got together for an evening's session that lasted from 7:30 until midnight. The following morning they all left for Gallup and points east and west. We were mighty sorry to see them leave, but aside from the pleasure the visit brought us, we had the added pleasure of showing them once again a little of the finest Monument in the National Park Service.

Senator Carl Hayden, accompanied by his Secretary, Mr. Roca, visited here the afternoon of the 16th. We drove them into the canyons, and had an extremely pleasant visit with them for several hours. Richard Sias and Clinton Rose arrived the following day, and accompanied the custodian up Canyon del Muerto on a short trip.

Jim Hamilton paid us two visits during the month, being accompanied by Mrs. Hamilton on his second visit. Mr. Hodgeson of the U. S. Coast and Geodetic Survey was here on the 14th, and we spent some time poring over maps of the region. Deric Nusbaum and Stillman Williams were here on the 26th. We regretted to hear that it was Deric's last trip of the season. Johnwill Faris dropped in on the 18th, accompanied by Mr. and Mrs. Kohl of Aztec, New Mexico. Johnwill looked quite crushed when he left. Though he saw but a very small portion of this Monument, I know how he felt as he contemplated returning to Aztec. It seemed to me that there was a covetous glint in his eye, but he wouldn't admit it.

Mr. Norman G. Wallace, of the Arizona State Highway Commission, and Mrs. Wallace paid us a visit on August 22. Mr. G. W. Harris, of Harris and Ewing, photographers in Washington, D. C., was here on the 13th, and promised to return and spend more time here at the very first opportunity.

And so we draw to the close of another, and most successful month, and to the end of this travel year. To date our total travel for the year has been 1,091 persons. Since this is only the 21st of the month, we must estimate another 45 persons before the end of September. This will bring

this year's travel to 1136 persons. Last year's travel was 958 persons. This is an increase of 178 persons, or 18 $\frac{1}{2}$ per cent this year over last year's travel.

GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for the month numbered 503.

Weather conditions for the month have been exceptionally good; some rain, and at present the corn and bean harvest is well under way. On August 28, we had our first snow flurries and light frost is reported in some low places.

Work has begun on two highways, one from the east and one from the south; this is giving much needed employment and should increase the number of visitors to this Monument considerably.

Have given quite a bit of time to the approach road to the Monument and have it in excellent shape. With some much needed work on our scraper and a systematic scraping of the road at least once a month we can keep the road in excellent shape and prevent further washing.

The National Geographic photographers were here on the 21st and took quite a number of pictures. The state travel bureau officials also gave us a call and are doing some really good advertising to this Monument in way of large signs and road markers.

The past month would have been a wonderful time for artists to paint in this country as the hills and forests are just filled with wild flowers. Patches of several acres in extent are covered with blue flowers; other patches are yellow and still others are red.

Our bird baths are proving almost too popular. At times the jays, hawks, roadrunners and more quarrelsome birds seem to monopolize the baths for hours at a time. The Mourning Doves come in flocks of 50 and 75 at a time. During the night the owls come, several species, but the Great Horned seems to be most plentiful. I know of few more beautiful sights than to see two or three Great Horned Owls perched on a cedar tree between you and a full moon. One bath is near the bedroom window and it was a little hard to sleep but now the absence of their hooting is more annoying.

Forty students from the Tulerosa High School visited us on the 4th of the month. Am going to start a campaign among the different schools in the surrounding country the same as I did at Tumacacori. By arranging places for them to eat lunches, etc., and giving them a couple of hours of sight-seeing and attention, they are usually all anxious to come about twice during the school year and if satisfied they are always good advertisers.

We received the signs for parking place and rear entrance, from the CCC camp at Bandelier, and we are much pleased with them.

The copies of old records pertaining to this Monument which Robert Rose is sending us from Berkeley are very much appreciated. The binder prepared for them is very convenient to show to the especially interested visitors.

WHITE SANDS

By Tom Charles, Custodian

This matter of "Publicity Vs. Advertising" is bothering me. Just where does one end and the other begin?

A few weeks ago the assistant custodian, "W.O.P." visited a daughter in Omaha and on account of close affiliation with the State Federation of Woman's Clubs she got quite lengthy mention in the Omaha papers, which incidentally referred to her connection-by marriage with the Great White Sands. The daily paper had barely reached the drought stricken section of Nebraska until a letter was headed my way, with the salutation: "I saw your ad in the Omaha paper." The writer seemed to be more or less of a promoter and wanted to bring a colony down to be in close proximity to this unusual attraction. What we thought was a purely social article was evidently an "ad".

Some weeks ago a woman in Maine wrote our Chamber of Commerce for samples of the White Sand. This week she reports that the White Sands helped to make her Natural History table a most interesting part of the County Flower Show at Turner, Maine; that those seeing it, "were surprised at its whiteness and sparkling beauty", and when she turned her back she found that they would run their fingers through the little dunes, to be convinced of its reality. We learn now that the lady got her interest from the White Sands article in the National Geographic Magazine last August for she says, "The pictures appealed to me as something new, out of the ordinary in interest and beauty." So here was a prospective commercial interest proven to be as pure as the Sands themselves.

The intended inspirational proved to be commercial and the sure shot commercial was purely inspirational. Just what is what and who is who in this publicity matter?

Traffic is off at the White Sands. Total registration for the month was 2,459 as against 2,785 last month; Texas lead with 841; New Mexico, 364; Oklahoma, 65; California, 46; Kansas, 32; New York and Pennsylvania, 17 each. All former records on foreign countries was broken, 9 of them were represented this month, also 40 states and Washington, D. C. On the basis of 14% registration, this gives us 14,005 for the month and 93,903 for the year.

WHITE SANDS (CONT.)

Among our Park Service visitors this month were Adrey Borell, Jack Diehl, A. E. Underhill, and Luis Gastellum. Another distinguished visitor was Richard Stewart, staff photographer for the National Geographic Magazine who was taking colored pictures of the Sands. We got close enough to Hollywood that Warner Brothers wrote for pictures and information about the Sands, wanting to know about the possibility of making movies there. And the entomology department of Cornell wants me to send them a "male spider" of the Sands variety. Do you have any one in the force who can tell me just how to pick that kind of spider?

CHIRICAHUA

By Frank L. Fish, Custodian

Weather:

A heavy rain occurred on the 12th drenching the entire southern part of the state. Rhyolite Canyon ran a good stream, the heaviest in 12 years according to Ed. Riggs.

This storm benefited the ranges to a great extent, making it possible for some stockmen to hold their herds through the winter instead of selling.

Roads

A heavy slide blocked the Monument road about a mile below Massai Point during the storm of the 12th. It is fortunate the CCC Camp is stationed here because if the slide had occurred at a time after their removal our road system should have been blocked for a long period.

It is hoped enough money can be set up this coming period for Mr. Stevenson to complete the back sloping of the Bonita Canyon road.

Surfacing has been completed on the ten-mile stretch of State Highway 81 this side of El Frieda. Relocation of some sections of State Highway 181 is planned for the near future.

Visitors

Travel showed the usual September slackening due to schools reopening. There were 709 visitors, arriving in 178 cars. 146 or 20% were from out of the state. 28 states and Mexico show on the register.

At this Monument there is a decided representation from the southern states more so than any other Monument where I have been stationed.

Park Service Officials

Clinton and Mrs. Rose were here on the 4th. Mr. Rose inspected our

CHIRICAHUA (CONT.)

future sign program and drinking fountain development at the camp ground and parking area sites. I was pleased to take Mr. and Mrs. Rose on a horseback tour of areas they had not seen before.

J. H. Tovrea and Jack Diehl were inspecting the 11th. Heavy showers welcomed Jack on his arrival. It leads me to believe one of the above if not both must be acquainted with the Rain Gods up Budlong's way.

W. Ward Yaeger arrived the 23rd. He is busy at the present time investigating the bark beetles. Mr. Yaeger intends to aid me in classifying some of the many plants of the Monument. His efforts will certainly be appreciated as there are things growing down here I never "seen" before. Mrs. Yaeger is along but so far I have been unable to meet her due to this monthly nightmare I have to turn out by the deadline.

Hugh Miller and Mr. Strieby are due here today. Hugh doesn't know what he is getting into. I have about a thousand questions to ask.

Newsworthy Visitors

John Curry, Editor of the Douglas Dispatch was an interested visitor during the month. Mr. Curry promises to issue a special on the Monument soon.

Equipment

A new Ford V-8 pickup was received this month.

A power saw has been ordered and is in Willcox at the present time.

Cooperation with Other Agencies

Three rock rattlers were shipped to Dr. Blanchard of the University of Michigan. Pictures and literature on the rattlers of this region have been received in return.

The custodian is conducting a class in Forestry Tuesday and Thursday evenings at the CCC Camp.

Sunday, September 26, a combined Army and Douglas Climate Club program is to be held at the Monument. The Army is having the enrollees and guests to a barbecue and the Climate Club is presenting a hammered copper register book to the Monument.

CHIRICAHUA ECW

By Wm. Stevenson, Project Superintendent

Heavy rains during the month caused a rock slide of approximately 1000 yards on the Bonita Highway near the Sugar Loaf turn off. It is

CHIRICAHUA ECW (CONT.)

estimated that an additional 800 yards will have to be removed to provide a stable cut bank as the slip left some overhanging ledges. At present two shifts are being used in an effort to expedite clearing the road as it is necessary to block automobile travel at this point during the week.

The Echo Point-Rhyolite trail connection advanced 700 feet making a total of 1,500 feet to date. In the early part of next month it will be possible for horse back parties to make use of this connection by combining it with a portion of the old trail.

The connection between Massai Point and Echo Point is finished, and a start was made on the 3-mile connection to Sara Deming via Inspiration Point and Balanced Rock.

Due to the heavy rains, it will be necessary to maintain several sections of the trail system during the month of October.

Walls are completed to full height on the Headquarters Ranger Station. Lintels, plates, beams, rafters, and floor joists are in place.

Foundations were poured for the equipment shed and forms for the walls are 80% complete. Masons will start work on this project by October 1.

Operation of the stone quarry has continued throughout the month.

WUPATKI

By James W. Brewer, Ranger-in-Charge

500 USE OF MONUMENT FACILITIES BY THE PUBLIC

127 guests registered at Wupatki; 256 at the Citadel group; 54 names are duplicated, leaving a total of 329 visitors to this Monument in September, 1936. 1935, 250; 1934, 194.

One party camped overnight and enjoyed a campfire talk about Navajos by Mrs. Brewer.

Another party picnicked on the exhibition grounds.

530 NEWSWORTHY VISITORS

Dr. H. S. Colton and Miss Bartlett collecting rain-gauges on the 31st.

Dale S. King overnight, taking a breather from Citadel report compiling.

WUPATKI (CONT.)

Dr. Frederica de Laguna and Mrs. De Laguna, her mother, on the 7th to see "all" of Wupatki.

Mr. and Mrs. A. C. Kuehl of Grand Canyon, unofficially.

Hauling Sunset Crater geology sign on the 14th, I missed Senator Carl Hayden.

100 ADMINISTRATION

123 Inspections by NPS Officers

Mr. Neal A. Butterfield from the Washington Office on the 18th to look over the territory included in the proposed extension.

Last October while in headquarters we talked about the difficulty that might arise trying to put a road into Crack-in-Rock on an unsurveyed 500-foot right-of-way.

Mr. Butterfield had a newly proposed outline showing a mile wide strip to include Crack-in-Rock. After driving across the Basin he was of the opinion that a road survey should be made before the connecting sections could be determined.

021 WEATHER

Has been generally unsettled, with showers and sunny days about evenly mixed. The range is in excellent shape and the cinder roads are all passable. Tanks are full to capacity.

Days partly cloudy	- - - - -	7
Days cloudy	- - - - -	8
Days sunny	- - - - -	13
Maximum temperature	- - - - -	88 on Sept. 15
Minimum temperature	- - - - -	48 on Sept. 7 and 16
Precipitation	- - - - -	1.03 inches
Anemometer reading	- - - - -	5293.5 miles total for month
Maximum 24-hour reading	- - -	239.9 on Sept. 12
Minimum 24-hour reading	- - -	83.2 on Sept. 18

200 MAINTENANCE

The 20th and 21st were spent painting all Wupatki road sign standard Park Service green and digging the rocks out of the entrance road. The roads close to the Pueblo have all been dragged. Several washouts have been repaired.

WUPATKI (CONT.)

230 NEW CONSTRUCTION

Because the trail from the parking area uphill to the Pueblo repeatedly washed out longitudinally, I have moved the parking area and eliminated the trail.

The parking area is now located at the site laid out for it in the new plan.

The "Foot Trail" signs made at Bandelier are installed on the Pueblo trails.

OR SOMETHING

Clyde says "Moon coming round I guess numbered birds come back to Wupatki." (Banded birds)

Clyde also knows his ethnology and evidently subscribes to the Bering Strait--Proto-Mongoloid origin of the Indian. We asked him to name the Indians he knew. He did: "Hopi, Havasupai, Yavapai, Chinamen -----"

SUNSET CRATER

By James W. Brewer, In Charge

808 visitors registered at Sunset Crater in September, 1936; 1935, 665.

They came from 30 states, the District of Columbia, Ireland, China, South Africa, and two parties from London, England.

On the 14th a shipment of handsome carved wood signs arrived from Bandelier ECW camp, complete with posts, each numbered for a certain sign. There are seven signs describing the interesting geological features and two "laying down the law".

I placed one of the "do not pick flowers or carry away anything" at the boundary line and the other close to the registration stand.

Six of the geological signs are placed at each corresponding feature as follows: Sunset Crater and trail indicator; Fumarole or Spatter Cone; Ice Cave; Yaponcha Crater, Sink Hole, Bonita Lava Flow, Anosma.

This leaves the larges of all still to be installed. It is "The Rim of Sunset Crater", seven feet long, and, I guess, between 90 and 100 pounds in weight. The loose nature of the trail surface combined with the steepness prohibits the use of a four footed pack animal. I am going to devise a pack-board and straps and with Clyde's help carry it up.

SUNSET CRATER (CONT.)

With the exception of Yaponcha Crater and the Anosma all the signs are set in concrete. These two are safely up but not set in concrete because I believe they might be more observably placed; I will try to locate them accordingly.

A very few minor changes in sentence construction might clarify the message on some of the signs, in event they ever need replacing.

A key to the location of each of these features would aid the visitor.

TUMACACORI

By Louis R. Caywood, Custodian

This month brings on the first cool days of autumn, the beginning of school and the beginning of an increase in visitor attendance. With the opening of the University of Arizona at Tucson there is a decided change in the number of visitors over week-ends. The past week-end brought a number of fond fathers and mothers from far and wide and with them part of the new crop of Freshman who hope to comprise the class of 1941. Many of them have paid their first visit to Tumacacori this year. In all this month there were a total of 1,020 contacted visitors and 73 who drove into the parking area and looked without stepping from their cars or who looked while using the facilities, making a grand total of 1,093.

This brings up a point or two which is very old but has not been mentioned for a long time. If the ranger or custodian is observing enough to see these "drive-in-only" visitors and puts them in the visitor count, he then is liable for showing a poor number of contacts, say 80%, and in the eyes of the powers above he has made a poor record that month. If he misses them or does not count them, although they did stop and look, then he has made a perfect contact record and is rated accordingly. Tumacacori is probably subject to more of the "drive-in-only" visitors than any other Southwestern Monument because it is so adjacent to the main highway. Occasionally, too, some of our alien population in this valley desire to see the Mission but the sight of a uniform (which to them means an Immigration Officer) puts them to flight. However, if properly approached they enjoy their trip through the Mission and spend considerable time here.

The weather the last week has been grand, cool enough to make life interesting. We have been most fortunate in having some very good rains which have done the surrounding country lots of good. Guess it won't be long now until we will have to start chopping wood to feed the fires.

The following noteworthy visitors were Mission visitors this month: Don and Marie Lrskine from Casa Grande brought Mr. and Mrs. Oscar Kelly from Michigan down on August 26 and spent several hours with us. We

TUMACACORI (CONT.)

enjoyed their visit very much also the grand rainstorm they brought. Father Victor Stoner made his monthly visit early in the month.

Rexford G. Tugwell, national head of the Rural Rehabilitation Projects, with Jonathan Garst, regional director of the work, with headquarters in San Francisco, California, and party were visitors to the Monument on September 16.

Father Stoner, on his visit, expressed a desire to locate the early site of Tumacacori known as San Cayetano de Tumacacori. I took Father Stoner to a site across the river that I had previously discovered and which may be the earlier site. Nothing remains but a low mound which may have been the visita. The entire site is located on the river terrace east of the Santa Cruz River and shows evidence of a small Indian village having been in use at one time.

On September 4 the Custodian gave an illustrated lantern slide lecture before the Nogales Rotary International on the "Sonora and Arizona Missions". The slides were those belonging to the Park Service and made up under the direction of Naturalist Robert Rose after the last Sonora Expedition by Miller, DeLong, Grant, Woodward, Tovrea, and Rose. A few additional slides were made especially for this talk by Mr. Lohn, photographer, of Nogales from negatives made by the Custodian. About 35 attended the lecture.

A drainage ditch has finally been placed west of the Mission to keep water from seeping into the foundation of the Mission. Two men were employed two days on this work. During the digging of the ditch a copper scraper and a white arrow point were uncovered.

The cemetery has been thoroughly weeded and cleaned. The entrance gates to the parking area and the restroom doors were given a coat of linseed oil which freshened them up considerably. Two picnic tables similar to those in use at Chiricahua National Monument have been made at the N.Y.A. woodworking shops in Nogales, but have not yet been stained.

The mountings for the gasoline engine used for pumping water were replaced and the engine properly aligned with the well jack and pump. Electric floor plugs were installed in the living room of the Custodian's residence.

Mr. George Gann of Amado, Arizona, was so kind as to donate a cannon ball, a prehistoric mortar and a Papago or Mexican bread board which was washed down the Santa Cruz River during a bad flood in 1935. These accessories were gratefully received and will be given their place when the new museum has been constructed.

In the last monthly report I failed to mention that the Custodian and H.C.W.P. had paid a flying visit to Chiricahua National Monument and

were most hospitably received by Custodian and Corabeth Fish and the Engineering Crew. We enjoyed a trip down the trails and Winnie especially was very enthusiastic as it was her first visit. How about the Fishes and "Minnows" paying us a visit?

EL MORRO

By E. Z. Vogt., Jr., In Charge

When this ranger dusts off his portable typewriter and gets out a stack of paper, an awful racket can be heard within the ranger's cabin. But the ultimate result is the September monthly report which follows:

Weather and Roads

With the exception of a rainy day now and then the weather has been generally fair all month. The usual autumn weather has not yet come, but colder nights seem to herald the approach of the first frost. This morning a heavy fog lay in the valley floor below El Morro. The fog soon lifted and moved away leaving a bright clear September day.

There has been more activity along the roads this month than I have seen in many a moon. The Forest Service is working the road up Zuni Canyon, which is on the approach from Grants, and the Bernalillo Mercantile Company lumber camp is grading up the road on this side of the mountain. A McKinley County grader chugged through Ramah last week and smoothed up the road out to the county line two miles south of town. But nobody seems to be the least bit interested in the road from the McKinley County line on to El Morro. It is in a rough condition at the present time, and there are no prospects that it will be scraped this year at all.

Travel

At the beginning of the month visitors came in droves. Then travel slowed down gradually, and now El Morro is lucky to have ten visitors a day.

Visitors totaled 423, so the month proved to be the best September for travel for many a year.

El Morro's newsworthy visitors for the month included:

H. B. Griffen, from the Arizona Republican, and family. Mr. Griffen drifted in about nine o'clock one night, and I had the pleasure of showing them El Morro by moonlight and flashlight. This was my first nocturnal field trip, and I really enjoyed it more than any other field trip I've ever guided.

EL MORRO (CONT.)

Mrs. Philip Bancroft from Walnut Creek, California, and Mrs. Griffing Bancroft from San Diego. Mesdames Bancroft are daughters-in-law of the late Hubert Howe Bancroft the famous historian.

Mr. and Mrs. J. W. Brewer, Jr., otherwise known as Jimmie and Sallie Brewer and as Ranger and Honorary Ranger Without Pay of Wupatki National Monument. Jimmie and Sallie were the first of the Southwestern Monuments family to visit El Morro this season, and I enjoyed their visit very much. They saw all the inscriptions and had time to climb on top the rock to the ruins.

Mr. and Mrs. C. B. Cosgrove of the Peabody Museum of Harvard.

W. W. Yeager from the NPS office in Santa Fe and W. H. Wirt of the Oklahoma City office were in on the 3rd. I did not get to see them, because I had gone to Gallup for supplies and did not return until after they had left.

Assistant Director and Mrs. H. C. Bryant and four children were in on the 6th. The Bryants ate lunch in the Nine Pines Cove, later climbed over the rock past the Indian runins and down by the inscriptions. I was not previously acquainted with Dr. Bryant and was certainly pleased to meet our Assistant Director and his fine family.

Mr. and Mrs. J. C. Harrington and Dr. Fred Eggan from the Department of Anthropology of the University of Chicago were here on the 14th.

Frederick Simpick, assistant editor of the National Geographic Magazine, visited El Morro on the 19th. The National Geographic is going to run an article on New Mexico about next May, and Mr. Simpick was here to take photographs and get information on El Morro which will be included in the article.

Flora and Fauna

The largest piñon crop since 1931 is beginning to be harvested. Rug weaving and pottery making are being neglected as Navajo and Zuni Indians move into the hills with covered wagons full of blankets, screens, and little Indians. Numbers of Spanish-American people pass El Morro daily in old cars and trucks bound for the pinon areas. Indian traders are beginning to scamper about in an effort to trade for more pinons than the next trader and are already sweating about the prices. Navajo kids are picking in the woods and hiding out from Indian Service employees who are trying to round them up for school. House wives sigh wearily as they find pinon shells strewn from basement to attic.

The present price of pinons in this region is 8¢ a pound cash and a few cents more in trade. It will probably go up later on after the nuts dry out and weigh less.

EL MORRO (CONT.)

Also being harvested in this region is a fair-sized pinto bean and corn crop. The beans have already been cut and are drying in small piles in the fields.

As far as I can determine the immediate vicinity of El Morro has the only grass in western Valencia County which can be considered good winter feed. To the south many cowmen will sell their entire herds rather than try to winter them on short grass.

The following birds were observed at El Morro during September:

White-throated Swift
Woodhouse Jay
Golden Eagle
Pinyon Jay
Pigmy Nighthawk
Red-bellied Woodpecker
Red-shafted Flicker
Canyon Wren
Western Meadowlark
Chestnut backed Bluebird
Desert Sparrow Hawk
Cooper Hawk
Western Mourning Dove

The bird list has suffered a considerable decrease, because most of the summer birds have migrated. By far the most numerous birds on the monument are the pinyon jays which are fattening themselves on the pinons. A close second in number are the white-throated swifts which dart swiftly about the rock.

Carlsbad Cavern doesn't have much on El Morro in the way of bats. After sundown thousands of them can be seen pouring out of every crevice and flying away into the deepening twilight in search of nocturnal insects.

MONUMENT IMPROVEMENTS

I am glad to report that a third coat of copperas on the concrete steps finally gave them all quite a desirable color. They now seem to be about as near the natural color as it is possible to make them with the copperas.

A number of large selected piñon nuts were planted in the reclaimed area with hopes for small trees in several years. You will remember that under CWA a number of small pinon trees were planted in this area, but only one survived.

Enough has really been said about the change of the entrance gate,

but I should like to make one more comment. If you refer to my report of January, 1936, you will see where I mention snowdrifts blocking the entrance road on the north side of the cliff. When the future permanent custodian tries to drive his car through that entrance gate and buck his way through the drifts around to the cabin about the 15th of next January, he will have my heart-felt sympathies!

When Custodian Vogt was out for a visit last week, he remarked that the inscriptions had noticeably dimmed since he first saw them about 25 years ago. He thinks that all the important inscriptions should have this new colorless preservative on them. I believe the preservative was invented by Prof. Martius of Stanford and is sprayed on with a spray gun. If we could purchase a few gallons of this preservative, I could borrow a spray gun in Gallup and put it on right away. Please let me know what you think about this.

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

September has been a very lovely month with several light rains and extremely pleasant weather all around. The thermometer has stood from 45 low to 70 high all this month with very little variation.

Travel has held up well for the month and we have had approximately 4,500 visitors. On the 28th of last month, but not included in the last report, we were visited by Dr. Chas. N. Gould, Regional Geologist, from Oklahoma City Office. He is a fine old gentleman and a scholar; he certainly knows his rocks.. Today again we were honored by a visit from another fine old gentleman and daughter Margaret; also Charlie Steen's and my Boss's visits are all too like a whirlwind. He has come and gone before I have time to even think of some of the things, let alone say them, that I have been hording up in the back of my head since his last visit.

Road conditions in the vicinity have been pretty fair all near this Monument this month and the road leading to and on the Monument is in splendid condition, although today I notice some sloughing of rock from the slope into the road.

MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Have had 1,234 visitors for the month, 568 climbing up to the Castle. This is quite a drop from last year. Highway 79, being torn up throughout the season, no doubt has had to do with the drop in number.

We have had a goodly run of out-of-state visitors, as well as 3 parties from Germany, 2 from Canada, 2 from Mexico, and 1 from New Zealand.

Ranger Curtis Cox, who has been with us since the latter part of

MONTEZUMA CASTLE (CONT.)

June, left us on the 21st of the month. Mr. Cox is a teacher, and got a position with the Clarkdale school. He is a good ranger and we regretted very much to see him go, and wish him every success in his new position.

Earl and Betty Jackson "Who still talk about Bandelier being home" have been stopping with us for the past six weeks. They left about the middle of the month for Phoenix. And from all reports they are quite comfortably settled.

It seems that nothing very exciting has happened this month. The weather has cooled off considerably and we are not having so many complaints. Had one near argument with a lady who positively refused to register when I rather insisted that she should. She immediately requested me to go to a place made famous by Dante's. I had no argument on that, so I simply told her to wait a little while.

Have had several stormy days during the month. The old-timers are predicting an early and severe winter. Personally, I have been here too long to make any predictions concerning the weather.

WALNUT CANYON

By Paul Beaubien, Ranger-in-Charge

During September there were 1,872 visitors to Walnut Canyon, of which 1,424 were contacted by the ranger. Estimating the travel for the remaining days of this month as being equal to the number arriving the same days last year, there were 10,962 visitors this travel year.

It is interesting to compare the number of visitors reaching Walnut Canyon with the number of cars that pass along Highway 66. During the summer, the Arizona State Highway Department, under the supervision of the Bureau of Public Roads, maintained a checking station just east of our west entrance road. I have been informed that there has been an average of 1,130 vehicles per day since May, and that approximately 50% bear out of state license plates. It would seem that 10,962 visitors are too few. However, with no respectable roads or trails, no water supply, no buildings on monument, and with only one part-time ranger, I can't guess what would happen if many more visitors chose to come.

Park Service visitors for the month included Mr. and Mrs. Carl E. Schmidt, Mr. and Mrs. Chas. A. Rollins, W. W. Yeager, W. H. Wirt, H. C. Bryant and family, Mr. and Mrs. Adrey Borell, Frank Pinkley and Nancy Margaret, Charlie Steen, John H. Diehl, Mr. and Mrs. J. H. Tovrea, Neal A. Butterfield, and Dale King.

Dale spent his vacation here working on his report of the excavation of Nalakihi ruin at Wupatki National Monumen.

The summer rainy season did not end September 1 as it did the past two years, so few birds came to the water trap. Only 5 Chestnut-backed Bluebirds, 4 Cross-bills, and 1 Rocky Mountain Nuthatch were banded. There were two "returns," a Cross-bill and a Chestnut-backed Bluebird.

AZTEC RUINS

By Johnwill Faris, Custodian

Well here goes for the last report in this visitor year and it just lacks a wee bit of being a banner year for the Monument during the time of my term as Custodian. Visitors for the month of September total 1,972 which is the largest like month in the history of the Monument since 1929 and I have not looked up any records prior to that date. Total visitors for the year 1935-36 number 12,907 which is exceeded in my time by the travel year 1929-30 and that totaled 13,110, so you see, Boss, we are nigh up to par.

It has been a decided pleasure to have served these visitors and I feel that I should express my appreciation for all the help I have had in this service. Many compliments have been received and I pass these off to the boys that did most of the guide work.

Aside from the visitor angle this month has not been especially exciting. The Custodian made one official trip off the Monument and that to the Central Navajo Agency and while my mission at the Agency was not especially fruitful I did so enjoy a detour via Chin Lee and that Monument Budlong administers, I forget the name of it; I knew once but one hears so little about it that the name has slipped my mind entirely. Anyway the folks there did show me a wonderful time and we appreciate it very much. I was sorry not to be able to get up in the canyons but Bud knew his canyon and my disappointment was soon forgotten in the view from the rim and of the trail. We looked over the house and congratulate Bud on having such a nice place. Betty and Doug were swell and the entire Park Service at Bud's dump is invited to make us a visit. This even includes Gipe and Clark Spencer. I had a nice talk with your construction crew and even got a picture of two of the pump house. I did not get a picture of Gipe cranking the motor but I certainly would like to see it sometime. All in all Bud has a wonderful thing there and we other custodians are going to battle hard to keep our Monument on a plane with the possibilities that exist with Bud. But, Boss, one can only appreciate Aztec Ruins by seeing some of these other places.

Heavy rains have caused considerable damage to ruins walls the roofed Kiva and the court in general. A report is still to be given on the exact damage. Both Underhill and Hamilton were in and looked over this damage but we have several things remain to be tested before we are ready to make a definite report on the cause. Especially is this true of the water in the roofed Kiva.

AZTEC (CONT.)

Official visitors for the month have not numbered so many, Mr. Wirt and Yeager were in for a few minutes on the 9th; Ansel Hall for a few minutes on the 6th; and Jim Hamilton and his wife yesterday. Underhill doesn't count. We had hoped to be honored with a visit from yourself and the Director but as yet neither of you has shown up and I guess we will be given the go by this year.

So, Boss, another travel year and my seventh year at Aztec ends. In the seven years it has been my pleasure to have witnessed many changes, and I trust and hope that in the next seven, whether I be here or whether you see fit to move me before they end, that I will see as many changes for the better as I have here.

BANDELIER

By Jerome W. Hendron, Acting Custodian

Visitors

Visitors numbered 1,965, arriving in 440 cars from 31 states and District of Columbia.

The six highest states in order by visitor count were: New Mexico, 488; Texas, 218; Oklahoma, 131; Illinois, 89; Kansas, 83; and Missouri, 57.

Our attendance dropped slightly this month but not as badly as was expected, the number decreasing 1,215 or 47%, but the total for this month showed an increase of 371 over September, 1935.

Six people from foreign countries visited us this month, being from England, Canal Zone, Central America, Italy, Germany, and Colombia, S.A.

Our return visitors for this month numbered 127 showing an increase of 3 over last month.

Weather and Roads

Days partly cloudy-----:	21	
Days cloudy -----:	4	
Maximum temperature----:	88	August 25
Minimum temperature----:	48	September 23
Mean Maximum-----:	78.5	
Mean Minimum-----:	55.6	
Precipitation-----:	2.30	against .40 for September, 1935
Rain and sleet -----:	Aug. 26, 27, 29, 30, Sept. 2, 8, 11,	
	13, 14, 16, 18, 19, 20, 21, 22.	
Dust storms-----:	None	

BANDELIER (CONT.)

It appears that fall is with us and that the winter is almost upon us, the leaves on the trees are turning and almost all of the flowers are gone. We have had a considerable amount of rain during the month and on several occasions a slight mist of snow.

From a general standpoint the roads have been a little rough in spots and we have had several complaints about this. The washes at Pojoaque have been running again but not as much as they did last month.

Visitor Trip Chart:

One hundred forty-five parties took guided trips through the ruins, or were given short lectures, numbering 912 people. The average time per party was 69 minutes including the short lectures. One hundred thirty-four parties took complete ruins trips, making a total of 831 people; six parties or 11 people were given short talks averaging 29 minutes per party. Our largest single party numbered 51 on September 21.

Special Visitors:

Reginald G. Fisher, Assistant Director of the School of American Research in Santa Fe, was in with a party on September 4.

September 4 - W. G. Carnes, Deputy Chief Architect from the Washington Office, spent a few hours in the canyon on an inspection tour with Chuck Richey.

September 5 - The Boss dropped in late in the afternoon with J. H. Tovrea and Art Woodward and remained until the next day. We had been waiting for him a long time and I think everyone straightened out all of their difficulties.

September 6 - George Collins, Assistant Regional Officer from the Santa Fe office, was in for a short stay.

September 12 - Cecil J. Doty, Associate Architect, and Milton Swatek, Jr. Architect, were out for a trip around the ruins. They are from the Oklahoma City office and are now working in Santa Fe.

September 18 - Dr. Edgar Lee Hewett, Director of the School of American Research in Santa Fe paid us a short visit. Dr. Hewett did the excavation work here a number of years ago. Chuck Richey, J. H. Tovrea, and Lyle Bennett dropped in late in the evening for a short stay.

General

We are actually seeing light in our museum work now, having two new additions to the staff. One of these gentlemen is a sculptor and we feel

BANDELIER (CONT.)

rather proud of him and are looking forward to some good work. He studied in Europe and is here to model physical types. At the present time we are working on a miniature reconstruction of the Community House which we hope will be the last word when it is completed and I think it will be. The other gentlemen is a painter, or a specialist in pastels. He is doing all of the modern Pueblos that we can get into without creating too much disturbance. He should produce some nice paintings for us since he is well known in his field. We also have a relief model of the Monument and surrounding country to paint and put in shape and I can truly say that I am glad these fellows are here because they can help out in many ways. Our CCC enrollees who work in the office are helping out considerably. Since the visitor traffic has slowed down they are putting in time on the museum so we have quite a force now and should be getting things done.

Hub Chase has put out a wonderful job on these new quarters for employees. We have two completed and another in the process of painting and in a short time a fourth house will be taking shape, so I think everyone down here in Bean Gulch is pretty well satisfied.

As I close for this month I am expecting the Boss in most any time now and we'll surely be glad to see him again and shower him with questions as usual.

BANDELIER ECW

By H. B. Chase, Project Superintendent

One exhibit case, including the wiring, has been completed and ready for the installation of the exhibits in the museum. This case construction is being done under the furniture project for this camp.

All interior decoration and final finishing work was completed early this month on quarters No. 2 and it is now being occupied by the acting custodian.

The equipment shed project, which includes two rangers' quarters, is now complete with reference to any building construction. It has this date been turned to the painting and decorating crew for the final finishing work. It should be ready for occupancy by October 10.

One root cellar of our project of three root cellars has been completed this month together with the small retaining wall constructed with this building. Work has started on the other two cellars and will be carried through to completion during this following month.

Geology and directional signs for Wupatki and Sunset Crater National Monuments were completed and shipped this month. Signs for Walnut Canyon and Aztec Ruins National Monuments are now in the making and should go

forward within the next three weeks.

The rock quarry crew has been in progress all month quarrying and delivering building rocks for the proposed construction quarters No. 3.

The building crew has chiseled and shaped a large quantity of building stone on the proposed site of quarters No. 3 in preparation to construction immediately upon receipt of approved plans.

Considerable wet weather has forced continuous road maintenance of the entrance road during the past month.

TONTO

By. F. B. Horne, In Charge

There were 203 visitors at Tonto this month. This was a decrease of 121 compared with 324 for last month and 135 less than the 338 people who came in September, 1935. The drop may be due to the threatening weather which has prevailed, thunder showers being almost daily occurrences in the vicinity. On two days, September 12 and 24, no visitors came.

The register showed visitors from 25 states and one foreign country. Arizona led with 30%; California came close second with 25%.

A compilation of data from visitor guide charts follows:

Total visitors field trip	148
Total time . . . field trip	2,945 min.
Visitors museum	183
Time museum	1,002 min.

Averages:

	<u>Time Field</u>	<u>Museum</u>
Spires	66 min.	17.5 min.
Horne	52 min.	19 min.

As reported, scattered thunder showers have been frequent. 1.75 inches of rain fell this month compared with 1.49 inches for September, 1935. High for the month was 103 degrees and the low as 63 degrees. (This through the courtesy of Ben Reynolds of S.R.V.W.U. Ass'n)

Charlie came up Saturday, September 12, to help me with some much needed information. Mr. and Mrs. W. Ward Yeager and youngster, en route to Casa Grande, stopped briefly on the 20th. Mr. J. H. Woodaide, formerly a "G-Man", now transferred to the Treasury Department where he is a "revenooer", as he jokingly said, came from Denver on the 15th.

I had been down under the hill "digging" in the storeroom and was quite dusty. When he flashed his badge it nearly scared me to death. I don't know why I should have such a damned guilty conscience.

A very elderly gentleman from England, who saw the ruin four years ago during a visit to this country, brought his granddaughter this trip. He had hired a car after making a special trip to Phoenix in order that he might show the young lady the "cliff house" which seemingly had been the subject of much discussion. He asked if I were "the person who was here four years previous." I told him I believed the S.P. Indian guide was here at that time. (Or was it Charlie with his green handkerchief around his brow and stripped to the waist a-la volleyball night? Ugh, ugh!)

Woody must have killed all the rattlers as only one has been seen to date. He got away. The fourteen Woody bagged a year ago must have discouraged them and caused another "southern migration". A small herd of deer crossed the canyon above the spring the other evening. Nancy is not the only one who feeds squirrels. The "rats" have been stealing bread by the loaf from my table by the kitchen window.

The road condition remains the same, darn good if you still have an old model T puddle jumper, but I felt sorry for the dude who "gunned" his big Studebaker, with disastrous results, while the rear wheel was on a sharp rock.

Word has been received that Mr. Stevenson, the new ranger for Tonto, is en route to take over the duties of "the old man of the mountain". Good luck to him.

NATURAL BRIDGES

By Zeke Johnson, Custodian

This has been a glorious month so far as rain and bad roads are concerned. Very few people will tackle the road for the Bridges during wet weather and as we have had good rains every few days for eight or nine weeks the number of visitors is pretty slim.

I have never seen so much water in the canyons here as during the last few weeks. There have been floods every few days. Just last Monday I chored around camp all forenoon and about 1 p.m. decided to go down Armstrong Canyon and work on the trails. Just as I was ready to leave two men drove in and desired to see all the Bridges and ruins above Augusta. I told them how to go and also that they had very little time to spare and then we separated. Just as I approached the caroline Bridge rain began to fall; it was not one of these drizzle-drozzle affairs but a gully washer and a frog strangler, I ran for a ledge about three hundred yards away but before I reached it I was spaked. I found a dry spot

NATURAL BRIDGES (CONT.)

of about ten feet square on the ledge and within a few moments water was running in streams over the ledge and in twenty minutes the flood came down the canyon, a flood six to eight feet deep. I concluded that I would be there all night. I had only two matches, not much wood, not much room, flood still coming up, first match failed (movie thriller) and I began to think of a cold night's lodging. I took a few more precautions and got a fire with the second match, gathered all the wood I could find, just a big armfull, and began to wish I were home. After two long hours the rain let up but the flood below didn't. The sun came out and the water quit pouring over the ledge in front of me so that I could see what was happening. I soon discovered that I could hook my shovel over a small tree on a ledge about eight feet above my head and pull myself up. Up I went and then found that by crawling on hands and knees for one hundred yards I could climb out on top of the canyon on the south side. By traveling about six miles around the heads of several small canyons I reached home a little after dark. Then what worried me was 'What had happened to the two men I had sent out on the hike?' The storm was only local and covered just about six square miles so a few hours after it stopped raining the flood went down and those two fellows had to wade the stream 20 times or more as the storm had caught them two miles above the Caroline Bridge. They arrived back in camp about eight p.m., just thrilled over their experience. I had a hot fire in the stove and a good warm supper ready for them, they changed clothes and were happy once more.

Two weeks ago a heavy truck slid off the road on Grand Flats, about 8 miles from Edwin Bridge and stayed there for 36 hours. It looks as though the driver had to tunnel out. The weather seems to be clearing and a state road crew is repairing the damage to the road.

I am OK and still going strong.

NAVAJO

By Milton Wetherill

September has been a very good month so far in spite of the rain and bad roads. There have been several heavy rains this month. We also have had several light frost so far, and the Box Elders, Water Birch and Aspen are turning from green to yellow, in a short time this part of the canyon will be a mass of color. A large number of late flowers are in bloom which adds to the color of things.

Two parties of note this month, Mrs. Grace A. de Laguna and Frederica de Laguna, also Dr. Harold Colton Museum of Northern Arizona and Major L. T. Brady, Flagstaff, Arizona.

Two overnight parties were in the early part of the month, one party staying overnight, the other party two nights.

By John Wetherill, Custodian

We have had 363 visitors up to now for the year. It does not seem to you like a large number. We will improve as time goes on. The road between here and Tuba has been greatly improved in the last year. The rains have held up a good many people the past six weeks.

Betatakin is beautiful now. The yellow of the Aspen, the deep green of the Douglas Fir, the red of the Box Elder, Oak, Willow and Water Birch, added to the high cliffs, makes a glorious sight that is hard to describe. You should have come here while you were so close. You do not know what you have missed.

CASA GRANDE

By W. J. Winter, Custodian

This custodian and the H.C.W.P. reported back on the job September 16 after three months absence, about three weeks of which might be called vacation. We were right glad to get back, for both Virginia and I had missed our friends and our home here. That we have good friends here has been demonstrated many times and this was no exception, for when we arrived we were delighted to find that our house had been cleaned by Christine Miller and Marie Erskine, Hugh had connected up the refrigerator and Teddy Baehr had cleaned off the car, which had been accumulating dust in the garage all summer. So, instead of having to dive into several days of hard work we just dropped back into our normal manner of living, grateful beyond words.

Ranger Don Erskine and his temporary assistants seem to have attended to the monument business quite capably. Reports and records are up to date.

For the past month the visitor count was 2,045, coming from 34 states, the District of Columbia, England, Ireland and Mexico. Only one special group is recorded, 30 school teachers from Casa Grande, September 24. These had supper in the picnic grounds and so arrived here rather late. I took them through the ruins between 6 and 7 p.m. which is the hour in which the numerous bats are flying in and out of the Casa Grande. These seemed to worry the hatless ladies somewhat but caused more amusement than we usually see on ruins trips.

Fred Gibson, Director of the Thompson Arboretum at Superior came in to see us on the 18th. He of course had been here before, but brought guests this time.

The Monument can claim but two NPS visitors this month: Fred M. Strieb, ECW Auditor from Oklahoma City office, and W. W. Yeager, Assistant Forester from Santa Fe.

CASA GRANDE (CONT.)

Mr. Yeager inspected the mesquite infestation and told us that it needed considerable attention. It will need additional funds to cope with the situation, the urgency of which I cannot overemphasize. The infestation is spreading rapidly and will result in the loss of all of our mesquite trees if remedial measures are not taken very soon. Mr. Yeager will return with another expert on the 29th and we can then determine just how much money will be needed. I hope that you can make the Great White Father see the necessity for immediate action.

The weather cooled a bit this month. Day temperatures ran from 87 on the 19th to 107 on the 7th. Night temperatures were from 54 on the 16th to 75 on the 1st. Precipitation was .71.

Sunday, September 20, Ranger Russell Farmer came on temporary duty for the week. He is en route to Montezuma Castle where he will be permanent ranger. We were glad to meet Russ and to have his help for the past six days. Being a long tall boy he was especially helpful when we repaired the ramada roof over the picnic ground. He could get under the thing and hoist where the rest of us couldn't reach it.

The ramada in question was breaking down in two places but we put in new logs and it is now in good condition.

Nature notes are scanty this month. Gambel Quail seem to have increased considerably on the Monument. They come daily to the Custodian's residence to be fed, in flocks, like chickens. The Casa Grande has more bats living in it right now than any of us have ever seen before. At sunset they pour from the ruin by the thousand, reminding us somewhat of the evening bat flight at Carlsbad Caverns, though Colonel Boles might not like it if we made too close a comparison.

CHACO CANYON

By Thomas C. Miller, Custodian

General

September has been a good month in the way of visitors to this Monument. The approach roads remained in good shape most of the month. However, the last few days we have had several calls from visitors to and from the Monument to come pull them out of the ditches. The last one was a Harvey bus that slipped into the ditch twelve miles north of the Monument after spending part of two days visiting this Monument. The bus made the ditch at 2 P.M. on the 20th and we succeeded in getting them out at 11:30 A.M. on the 21st. We received the S.O.S. call shortly after dark on the 20th. We reached the scene in about two hours in the dump truck, but knowing how foolish it was to work all night trying to get this big bus out of the ditch while it was still raining, we brought the ladies back to Chaco to spend the balance of the night. The driver and another

CHACO CANYON (CONT.)

man remained in the bus and were still there on the job when we returned the next morning and got them out after several hours of hard labor.

Travel

1,041 people arrived in 344 automobiles coming from 28 states, the District of Columbia, England, Poland, and Scotland.

Weather

General weather conditions were normal during the month with moderate temperatures. A table of weather statistics follows: Maximum temperature, 91 on the 8th; minimum temperature, 40 on the 15th and 16th; precipitation 1.15 inches was recorded for the month. The greatest amount in 24 hours, was .30 inch on the 21st.

Special Visitors

Mr. and Mrs. Edwin F. Walker and Gertrude Halladay Leonard, of the Southwest Museum, were Monument visitors August 25. Mr. Carlett Dane, and Mr. Allen F. Brown, U.S.G.S. visited the Monument August 27.

Dr. Albert G. Jenner, Milwaukee, Wisconsin, arrived September 2. He was preparing to leave on the afternoon of the 4th when we received a phone call that a plane had crashed near Lake Valley, 17 miles west of headquarters. Dr. Jenner succeeded in following the Government pick-up to the scene of the crash by being towed and dug off of several high centers. We reached the scene of the accident and found that it was Mr. and Mrs. Ben O. Howard, Bendix air racers. Due to the difficult roads that we had to travel the doctors at Crownpoint arrived at the scene ahead of us. Dr. Jenner continued on to Crownpoint and aided in rendering assistance to the injured fliers. At this time Mrs. Howard is out of danger and Mr. Howard still has a fighting chance for his life.

Regional Forester and Mrs. Frank Pooler, U.S.D.A., Albuquerque, New Mexico, arrived on the 5th and departed on the 6th. Mr. and Mrs. L. M. Oaks, California Institute of Technology, were interested visitors on the 9th. Engineer and Mrs. Fred C. Hill, Bureau of Public Roads, Mesa Verde National Park, arrived on the 9th and departed on the 10th. Superintendent E. R. Fryer, Central Agency, Window Rock, Arizona, W. G. McGinnis, Regional Director, Soil Conservation Service, and party were Monument visitors on the 19th.

National Park Service Officers

Regional Forester W. H. Wirt, Oklahoma City, and his Assistant W. W. Yeager, Santa Fe, New Mexico, arrived and departed September 9. Associate Engineer and Mrs. Jim Hamilton were here on business on the 21st.

CHACO CANYON (CONT.)

Activities of Other Agencies

The Soil Conservation Service resumed operations September 1 with 13 men, one dump truck and 3 teams. To date much of the damage has been repaired on the diversion dikes that were built on the canyon floor. These dikes were badly damaged by flood waters during the month of August.

Mr. Gordon Vivian, School of American Research, arrived with a crew of 18 Mexicans from Albuquerque on the evening of the 21st. Mr. Vivian will finish the roofing and the repair work on the Great Kiva at Casa Rinconada. Mr. Paul Reiter will be in charge of excavations at Chetro Ketl with another crew of men that will arrive in the next few days. Dr. Edgar L. Hewett, Director, School of American Research, arrived on the 22nd, to spend some time getting the project started. This Institution is working on a PWA project that will probably run all winter.

Nature Notes

The flowers, grasses, shrubs, and even the weeds have shown an unusual amount of growth during the month. Wild four o'clocks and asters are helping to brighten the landscape. Along the north entrance road there is a clump of Jimson weed whose large white flowers have attracted considerable attention. Thirty-two specimens of plants have been collected and pressed and we know of several others that are yet to be had. We had just about gained control of the Russian thistles when the purslane began making a very rank growth around Pueblo Bonito. It has been necessary to do considerable work to keep the trails clean. A white dodder is attacking nearly all the plants and making the hoeing of weeds more difficult.

PIPE SPRING

By Leonard Heaton, Acting Custodian

I am sorry that this monthly report did not get off before now. The only excuse that I can offer is that I have been away from the Monument on leave and did not get at it.

The travel for the month of September, 1936, is 109 for visitors, 327 for local travel, and 72 estimated for the last six days, making a total of 518.

Mr. L. J. Brown, who is taking care of the Monument during my leave, has guided 40 visitors through the Fort, indicating that he is doing some good work at the place.

The fall weather is here, nights are getting cold, leaves are changing colors, and birds are on their way south. It feels as though we will have an early fall; frost has been reported in the higher mountains, and it is not long after that when we get frost.

PIPE SPRING (CONT.)

Our ECW work has progressed fairly well this month on filling up of the wash and a few minor jobs. September 18 was the last day the CCCs worked on the monument for the seventh period. The boys went home on the 22nd, and the camp will not be refilled until some time after the first of October. Will report the ECW activities after the close of the month.

The following Park Officials have been in to visit the Monument this month:

Al Kuehl, on the 2nd for two hours or more. Dr. Gregory and Vandiver were here September 15 and stayed for three days studying the rock formations.

The Boss (Superintendent Pinkley), Miss Story, Charlie Steen, Mr. Barker of Zion were here on the 15th for about an hour. They were accompanied by Miss Pinkley, daughter of the Boss.

Al Kuehl and George Collins were in on the 25th for about half a day going over the projects for the seventh and eighth periods, if the CCC Camp stays here. Several new projects were set up, which in time will get into your office.

I left the Monument on the 15th to take 30 days leave, and today I decided that I had several reports to get out to the Boss so I came down to the Monument to get this work out. Incidentally Al and George came in on their way to Toroweep. Was glad that I was here to talk over the Monument projects with them.

HEADQUARTERS STUFF

By Charle R. Steen, Jr. Park Naturalist

The naturalist staff was scattered far and wide during the month of September. Park Naturalist Rose was stationed at Berkeley for the entire thirty days continuing his researches into the records of the early Spanish missions of Sonora and Arizona. Junior Naturalist King was on annual leave until the fifteenth and at that time started a period of nine months' administrative leave during which time he will attend Yale University with the National Park Service Fellowship. Two weeks at Headquarters and a two weeks' field trip to some of the Utah and New Mexico monuments in company with Superintendent Pinkley and Miss Story of the Washington Office constituted the principal activities of Junior Naturalist Steen. Monuments visited were Walnut Canyon, Pipe Spring, Arches, Capulin, Bandelier, Gran Quivira, and White Sands. Several Park Service units outside of ours were also included in the itinerary; these were Grand Canyon National Park, Zion

NATURALIST DIVISION (CONT.)

National Park, Colorado National Monument, Black Canyon of the Gunnison National Monument, and Great Sand Dunes National Monument. On the seventh of the month ECW Student Technician Clarence Cole's appointment expired. Cole resumed his studies at the University of Arizona.

Gifts and Accessions

Several books and pamphlets have been received by the Headquarters library during the past few days, but due to a two weeks accumulation of routine work it has been impossible to catalogue these. They will be listed in the October Report.

A Pima Boy from Blackwater brought in a bow which was made and used by his grandfather a number of years ago. The bow was placed in the Casa Grande museum.

A shipment of bird traps was received from Berkeley. Types of traps included in the batch were Government sparrow; warbler and woodpecker traps.

Two consignments of lantern slides which have been tinted by the Berkeley laboratories arrived during September.

Bird Banding

Bird banding operations were still very slow, but with cooler weather and less natural feed during October our stations should get under way in earnest during the next few weeks. Banded birds reported during the past month are as follows:

Walnut Canyon

- 5 Chestnut Backed Bluebirds
- 4 Crossbills
- 1 Rocky Mountain Nuthatch

Casa Grande:

- 1 Say Phoebe
- 1 Cactus Wren
- 2 Inca Doves

MONUMENTS	No		Guided Trips				Museum Lectures				Museum		Outside		Total Contact	Total Travel	Percent of Contacts	
	Employ Per.	Tem	No.	Att.	Time	Av. Att.	Av. Time	No.	Att.	Time	Av. Att.	Av. Time	No.	Att.				
Arches																		
Aztec	2	-	314	1893	9780	6.0	51.1280	1887	4325	6.7	15.4	18	83	-	-	3780	1972	
Bandelier	1	2	149	916	9925	6.1	66.6	-	-	-	-	0	-	-	-	916	1965	
De Chelly	1	1	71		4530	3.0	53.8	-	-	-	-	-	-	-	-		217	
Capulin	1	-	3	20	160	6.6	53.3	-	-	-	-	-	-	-	-	20	4500	
Casa Grande	2	-	326	2045	9117	5.2	27.8305	1815	6164	5.9	20.0	-	-	-	-	3860	2045	
Chaco Canyon	1	1	81	350	5553	4.3	68.5	51	218	957	4.2	18.7	-	-	-	568	1041	
Chiricahua	1	2	19	104	2795	5.4	147.1	-	-	-	-	-	-	-	-	104	709	
El Morro	1	-	84	398	6143	4.7	73.1	-	-	-	-	-	-	-	-	398	423	
Gran Quivira	1	-	92	503	5135	5.4	55.6	-	-	-	-	-	-	-	-	503	503	
Gila Cliff-D.	-	-																
Hovenweep	-	-																
Montezuma	2	-	173	763	6757	4.4	59.0222	1014	4315	4.5	19.4	-	-	-	-	1777	1234	
Natural Bridge	1	-	20	89	565	4.4	28.8	-	-	-	-	-	-	-	-	89	89	
Navajo	-	-	15	46	1935	3.0	129.	-	-	-	-	-	-	-	-	46	46	
Pipe Spring	1	-	30	108	960	3.6	52.0	-	-	-	-	-	-	-	-	108	518	
Rainbow	-	-																
Saguaro	-	-																
Sunset Crater	-	-																
Tonto	-	1	50	148	2945	2.9	58.9	55	183	1002	3.3	18.2	-	-	-	331	338	
Tumacacori	2	-	217	1020	6576	4.7	50.3	-	-	-	-	-	-	1	35	1055	1093	
Walnut Canyon	-	1	157	613	3080	3.9	19.6208	7864	720	3.7	22.6	-	-	-	-	1399	1672	
White Sands	P	-	263	1120	196	4.2	.7	-	-	-	-	-	-	-	-	1120	14005	
Wupatki	-	1	25	74	1405	2.9	56.8	-	-	-	-	-	-	-	-	74	329	
Yucca House	-	-																
Headquarters	-	-																
Total-this mo.			2089	10427	77557	4.9	57.11121	5903	21483	5.2	19.1	18	83	1	35	16365	33507	
Total-last mo.			2410	13735	94286	5.7	59.11178	7049	24504	5.9	20.8					20996	40942	

Note: Bandelier and Chiricahua have 2 CCC men each, included in No. of temporaries.

TRAVEL STATISTICS

In September we passed the crest of the travel year and began to go downward in our attendance figures. We had 33,507 visitors in September as against 40,942 in August. We are glad to see the curve go over the crest and will be pleased to see it go lower next month because we are undermanned for giving good service to anything like thirty thousand visitors per month.

We gave 2,089 guided field trips last month, serving 10,427 visitors. In other words we were able to serve a little less than a third of our visitors with field trips. If you reply that probably the rest of them did not want field trips, I can say that I know better; at least another ten thousand of them would have welcomed the explanations given by a guide. Our monument problem as a whole is quite different from the park problem as a whole and a very much larger percentage of monument visitors must have guided service in order to get the largest returns from their visit.

Again I want to call your attention to the quality of the service given. The parties averaged a trifle under five persons and they were with the guide in the field for 39 minutes. This means a high degree of personal service; the talk is not a lecture in the strict sense of that term, it is a real personal talk adapted to the individual visitors and all their questions can be answered.

We gave 1,121 museum talks to 5,903 visitors, the average time spent in the museum being twenty minutes. Here again the average party was a trifle over five, so real personal service could be given. Having only six museums in the 18 monuments reporting in this table accounts for the fact that we handled only half as many visitors through museums as through field trips. Note that the batting average for the museum at the individual monument is high. Aztec has 1,972 visitors during the month; 1,893 going through the ruins and 1,887 going through the museum, all under guidance. Montezuma Castle and Tonto put more people through the museum than through the ruins, due to the fact that elderly persons and cripples cannot make the ruins trip, being handicapped by ladders, etc., but can get into the museums. The museum figures in this table show us conclusively that we need seven more museums right now among the Southwestern Monuments.

The table as a whole tells us that we are not giving proper service at several monuments and again, as last month, Capulin and White Sands stand out as the strongest arguments.

MONTH OF THE BOSS

It has been a rather hectic month from the standpoint of the Superintendent, very pleasant on the whole but with heavy strains thrown on our organization, which, we are glad to report, it is standing in a satisfactory manner.

On September 1, with Mr. J. H. Tovrea, ECW Engineer, I left Headquarters on a field trip and we drove that day to Gallup, New Mexico, some four hundred and seventy miles, arriving there about midnight. We expected the Director to arrive there the next morning but he was delayed one day and, after finding that out by telephoning the Grand Canyon, we went on out to Canyon de Chelly National Monument to await his arrival on the following day. We arrived there about four o'clock and found Bud and Betty very pleasantly situated in the new Custodian's residence. Mr. and Mrs. Albert Hopkins, of New York City, had just arrived an hour before us to see the Canyon. There being a young moon in the sky that night, we all made the journey up to the cliffs opposite the White House and enjoyed the wonderful view of the Canyon in the moonlight for two or three hours.

September 3 we spent at Canyon de Chelly, the Director coming in that afternoon, being piloted by White Mountain Smith and we spent the remainder of the day and part of the morning of the next reviewing the various angles of the present and future development of that Monument.

On the morning of the fourth we left the Canyon and drove to Ganado where Dr. Salisbury persuaded us to stop as his guests for lunch and showed us over the wonderful plant he is operating there for the benefit of the Navajo Indians. After lunch we parted from Mr. Smith who went south to his Petrified Forest while we went east into Gallup, stopping on the way at Window Rock, Arizona, to pay our respects to Mr. Fryer and Mr. Tom Dodge. Pausing in Gallup long enough to pass the time of day with Mr. Woodward, of the Chamber of Commerce, and get in touch with mail and wires, the Director, Mr. Tovrea and myself proceeded to Albuquerque, arriving there for a late dinner. Here we parted from the Director, as he had to take a train for the south and east and we had to go on up to Santa Fe. We arrived in Santa Fe about 11:30 that night.

We spent the fifth in Santa Fe in consultation with Mr. Carnes and Mr. Woodward from Washington, Mr. Hall from Berkeley, and the District men of Santa Fe over the Tumacacori Museum and Administration Building plans. The final compromise on this plan is not so very satisfactory to us although we signed the preliminary sketch rather than stand out any longer.

On the afternoon of the sixth we drove out to Bandelier and spent the night there. We found the work of the ECW camp coming along fine under the supervision of Camp Superintendent Hub Chase, and the work of

THE MONTH OF THE BOSS (CONT.)

the Monument was being efficiently performed by Acting Custodian Jérôme Hendron with the aid of his CCC helpers.

Leaving Bandelier National Monument at noon on the seventh and spent that night in Gallup. On the eighth we reached Headquarters about ten o'clock at night.

The weather was good and the trip was a pleasant one.

I remained at Headquarters until the thirteenth when I started a field trip which was to include the outer loop of our district. Charlie Steen, of the Naturalist Division, accompanied me on this trip as he had not yet visited some of these more remote monuments. We went to Cameron, Arizona, on the thirteenth, stopping a little while with Paul Beaubien Walnut Canyon National Monument.

On the fourteenth we went across the Colorado River over the bridge below Lee's Ferry and up through House Rock Valley to the north rim of the Grand Canyon where we spent the night. It had been several years since I had been on the north rim and I was certainly glad to get this chance to see the many improvements that have been made there. We also enjoyed a guided trip and an evening lecture with our good friend, Louis Schellbach. We made the east trip in the afternoon and the west trip the next morning, again with Louis as our guide, and left the Park about eleven o'clock, driving to Pipe Spring National Monument where we were welcomed by Leonard Heaton and shown over the place. At the Grand Canyon we had met Miss Story, of the Washington Office, who was being escorted on the triangle trip of the parks by Tom Parker, the efficient Assistant Superintendent. After looking over Pipe Spring we proceeded to Zion National Park for the night. Leaving Zion afternoon the next day we drove through to Price, Utah, arriving there about midnight.

On the seventeenth we visited Arches National Monument and went on to Grand Junction for the night. A fairly rough type of desert road has been broken through to a point near the Jug Handle and Double Arches and with a walk of a mile or so a visitor can now see some six or eight arches in that part of the Monument. The local people are very alive to the development of the Monument and are anxious to help us in every way they can.

On the eighteenth we visited the Colorado and Black Canyon of the Gunnison National Monuments and spent the night at Montrose, Colorado. This was an intensely interesting day and we all fell quite in love with the Black Canyon of the Gunnison. It is not of monument status of course; it is either a park or nothing. We arrived there late in the afternoon, so the light was at its best, and at that elevation the early frosts had fallen and the aspens had turned; it was altogether lovely.

On the nineteenth we drove to Monte Vista, Colorado, and on the

MONTH OF THE BOSS (CONT.)

twentieth visited the Great Sand Dunes and drove on to Pueblo. The twentieth being Sunday, we found six or eight parties picnicing at the Great Sand Dunes and passed many more cars headed that way as we came away in the afternoon.

On the twenty-first we arrived in Denver about four in the afternoon and visited a while in the Denver District Office before putting Miss Story on the train bound for Chicago.

On the twenty-second we transacted some business and left Denver, driving down to Raton, New Mexico.

The next day we went out to see Capulin Mountain National Monument and then drove into Santa Fe for the night.

The next day we were in Bandelier National Monument and returned to Santa Fe for the night.

On the 24th we left Santa Fe and drove to Alamogordo, passing the Gran Quivira National Monument and having a short visit with Mr. and Mrs. Boundey.

On the 25th we visited White Sands National Monument and then drove the four hundred miles to Headquarters, arriving about nine o'clock that night.

The travel on the first trip amounted to 2,605 miles and on the second trip was 3,312 miles. The weather was in our favor all the way and the roads were dry but in some places very rough.

CLOSING

As you may have deduced, providing you have read this far in this report, Chief, we have had a good month. We are over the crest of the traffic for the calendar year and the flood of visitors will recede somewhat as fall and winter approaches. You are not, however, to assume that we are going to hibernate, for we will probably have fourteen or fifteen thousand visitors in October and will reach our low point of about ten thousand visitors in December when we will begin to climb again. We cannot find much difference between winter and summer in this office but seem to be carrying a peak load all the time. If you don't think so, notice that the mail count ran three thousand nine hundred and fifty pieces during the month. The actual number of pieces which were worked ran well over a hundred per day, Sundays, holidays and all and that is the proper way to figure them because the boys put in a lot of overtime.

CLOSING (CONT.)

The visitors statistics will show that the men in the field have had a busy month too. Several of them, as a matter of fact, have been crowded to the point where they could not deliver good service.

The Southwestern Monuments is one unit of the Service which is definitely not advertising and not wanting to increase its total number of visitors until it can get its house more in order and be better prepared to take care of them. We are not having much luck along this line, it is true, because we find the visitors themselves are advertising our places and sending people in to us and our annual attendance curve seems bound to rise. As is pointed out in another part of this report, the curve at a couple of our monuments seem to have flattened out and no one can be happier than we are about it because it means we have that point pretty well under control and can concentrate our energy on getting more men and more capital investment at some of the weakest spots along the line.

We have a couple of proclamations on new monuments up there somewhere which have not come through yet and we wish you would do what you can to expedite them. The proposed monuments happen to lie in the low country and we want to do some field work on them this winter when the weather is in our favor and when we have a shade more time than we do in the summer.

We have recently had a regional officer here at our headquarters with whom we had a talk about some other prospective national monuments within our district. Some place in the western country we ought to have as a national monument a town which is saturated with the history of the old West. We have two such towns in our district. We ought to perpetuate one or more of the old overland mail routes by making a national monument of one of the old stage stations. We have a couple or three such colorful sites in our district. We ought to reserve some point around which would swing the Indian and Army history of the southwest. We have half a dozen important forts of that period in our district and are ready to offer you a selection for study. Let us go forward with this work this winter and bring some of these things to a decision. Your office will probably be in a better position to send out field men to make decisions in the winter than in the summer and the sooner we get these things done the better.

Another matter we expect to bring up again in the near future and keep hammering on is an educational campaign on the need of ruins stabilization. I don't think there are a dozen people, outside the workers in the Southwest, who know the vast need for actual wall repair, drainage, and general protection which we lump under the term stabilization among the ruins under our charge. We ought to have a regular, continuing appropriation, precisely comparable to our Roads and Trails appropriation, for the repair and upkeep of these ruins. I am speaking not only of the ruins which have been excavated by field expeditions, of

CLOSING (CONT.)

which there are a large number greatly in need of work, but of that other large number which have many high standing walls which are gradually falling apart and being forever lost to future generations. There is considerable irony in the fact that we can make a large reservation to protect certain groups of ruins; we can spend forty thousand dollars fencing that reservation in order to keep the cattle and sheep off so the grass will get a new start and keep down soil erosion; we can spend sixty or seventy thousand dollars putting in dams, taps, and revetments to keep the soil from washing away and dropping our ruins into the arroyos; various institutions can spend a hundred and fifty thousand dollars opening one or two of these ruins and studying them; but we can only spend about two hundred and fifty dollars per year in keeping up and repairing the walls on that one reservation which, if gathered together, would cover more than four city blocks in Washington, D. C., and would probably cost three million dollars to reproduce under present day labor costs!

We have not yet determined what course this educational campaign should take, but we intend to settle down to a long distance effort and put a lot of energy into it. It is much more important and will take much more money to handle it properly than our roads and trails allotments during these next ten years. Your engineering reports will show the expenditure of more than four thousand dollars in the stabilization of one ruin in one of our parks, without completing the job and we have thirteen ruins larger than that in one of the monuments in our district and have several other monuments which run that one a close second for ruins repairs. Not many people understand that we deal in prehistoric ruins among the Southwestern Monuments not simply in single and odd lots but in wholesale quantities. Group them all in one site and they would cover the area of a fair-sized city, and twelve hundred dollars would not go far toward protection, drainage, repair and upkeep on the walls of a city which had been standing abandoned for from five hundred to a thousand years.

During the past month we have had, for lack of funds, to lay off the Roving Ranger, as we have called him, who had charge of Yucca House, Hovenweep and Arches National Monuments during the summer months. This is the second summer we have filled this position and there is no question about the value of this job. He is a power for good in that small portion of the archaeological area of the Southwest and the very fact that he is going through the country from monument to monument talking with local people and asking about pot-hunting and general vandalism has brought lines of worry to the faces of several of the local diggers. Give us three general Roving Rangers in this district and we can go a long way toward stopping the terrible vandalism which is going on in the hundreds of Government-owned ruins of the Southwest.

And so September passes and we enter October with plenty of work ahead.

Cordially, *Frank Pinkley, Supl.*

THE Supplement

S-M MONTHLY REPORT

MUSEUM DISCUSSION

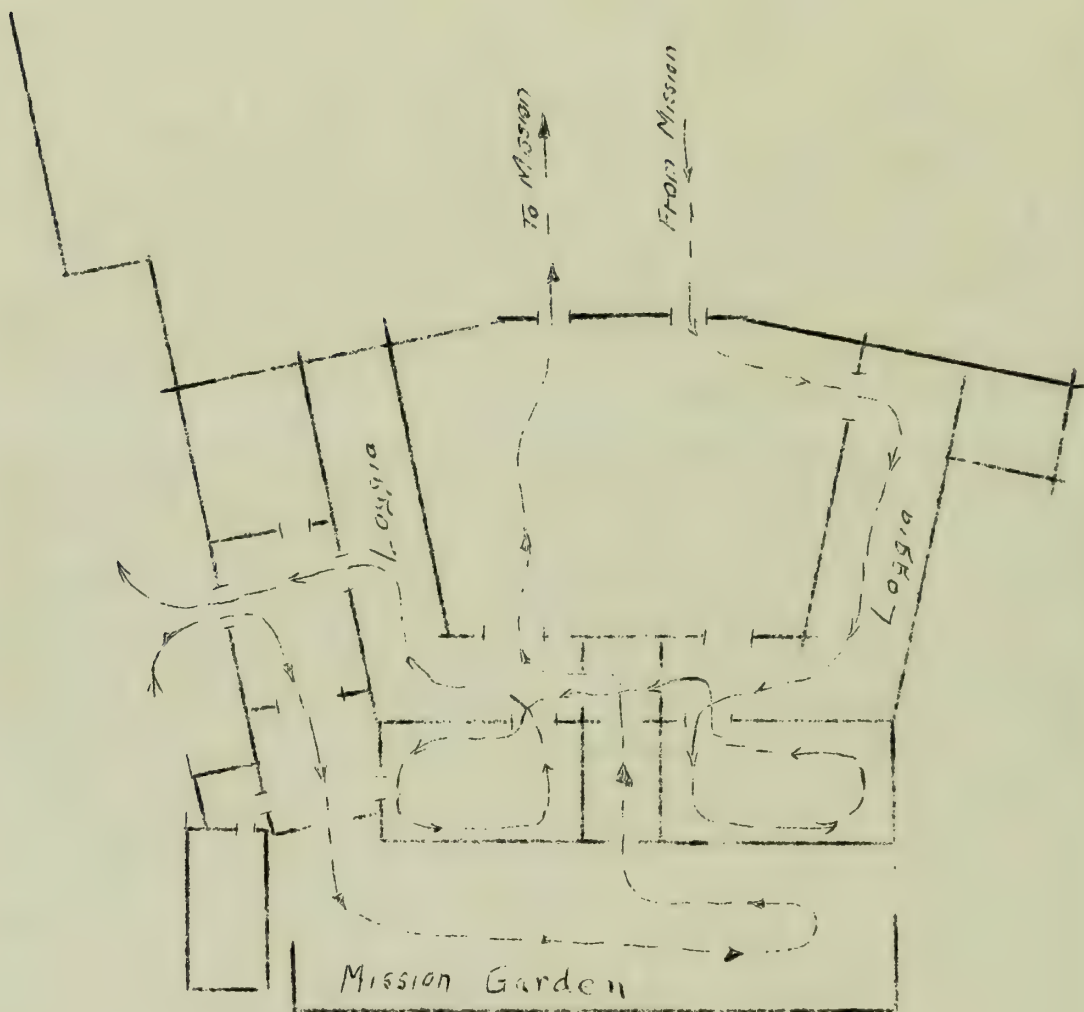
By Frank Pinkley

Recently we had a tilt with some of our Educational Division men over the layout of the Tumacacori museum plan.

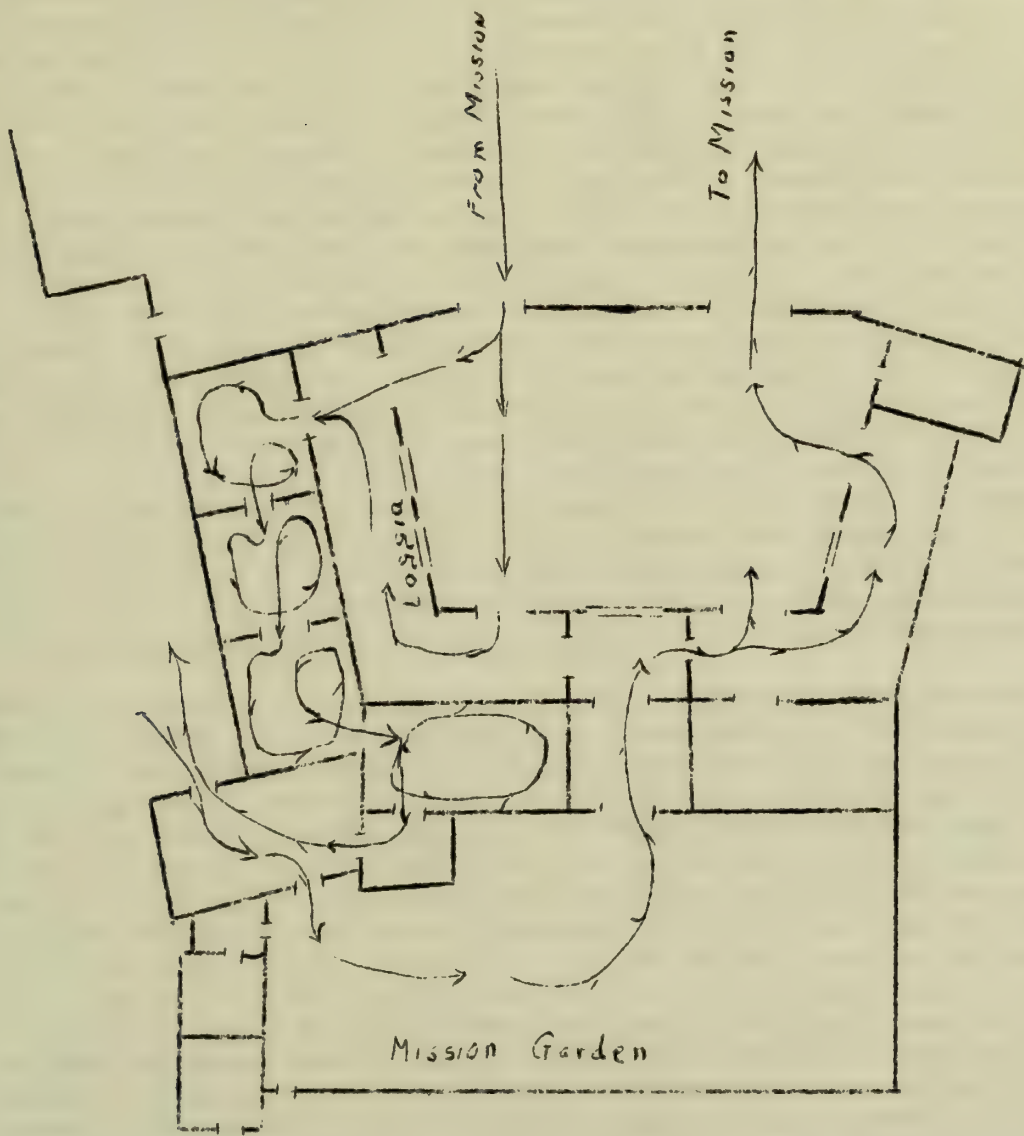
I was rather startled to learn that these men have never made any studies of visitors passing through our museums and did not seem to be acquainted with the reports of other museum men who had made studies of visitors in the big museums. It is almost axiomatic that foot traffic tends to move to the right upon entering a room. Business men know this and plan the lay-out of their stocks of merchandise on the fact. Museum studies have proven the matter in our large museums, yet when I protested against a clockwise lay-out these men said it didn't matter, that there was no difference and that we could make the traffic flow to the left. This led to quite a discussion about handling visitors in our small museums and I found that my ideas didn't get even to first base. I am here setting down some of my thoughts on handling visitors in our small museums in order to test them before a larger and perhaps more expert group of museum students, for this report goes to some of the best museum men in the United States.

In the first place, our Divisional men held that guiding in a museum was not necessary; that they could label the material and get as good results with the visitor. Our ideal for all Southwestern Monument museums is to give a guided service to all visitors and we believe, from many years of experience, that there can be no real comparison between the results of the two methods. We urged them to test the matter out with time studies and offered them the use of what time studies we have been able to make at Casa Grande on some fifty thousand visitors. They didn't seem interested. We were told that it would be impossible to guide our visitors through museums because of lack of personnel. We pointed out that we had actually guided ninety seven percent or more of our visitors at Aztec and Casa Grande the previous month. Casa Grande has about twenty-seven thousand visitors per year and two and a fraction men are supposed to take care of them. This does not make the cost of handling visitors through the museum, which is a small part of the total work of these men, excessive, so the objection that it would cost too much even if we could do it fell by the wayside. Big museums may not be able to afford good guides, but small museums can afford to do so and I imagine the big museum man considers it a "thing devoutly to be wished". I wish I could hear from some of them on that point.

It strikes us that a simple museum would be one room with a floor a ceiling and four walls. The material could be arranged around the walls in cases or not as might seem best. The visitor could enter the room, turn to the right and go around the room leaving through the same door by which he had entered. If accompanied by a guide the visitor would of course see the materials in the proper sequence; if for any reason the visitors could not be accompanied, about 85% of them would naturally turn to the right and see the materials in the proper sequence. This



CIRCULATION
PLAN #1



CIRCULATION
PLAN #2

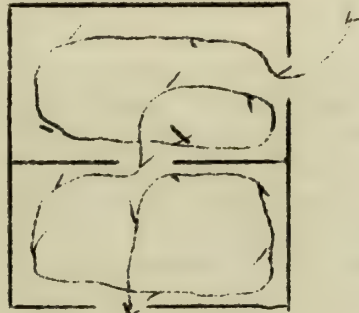
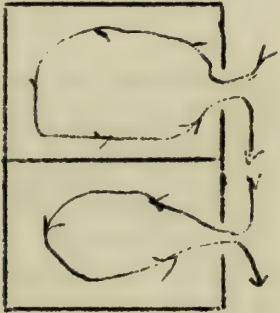
simple museum would be effective to a high degree; more effective with a guide than without.

When we have more material than will go in one room and have to add a second room, we come to any interesting problem. Our Educational Division men say to cut a door through into the second room, letting the visitor go through the first room into the second, through the second into a third, and so on. We had another circulation plan for the Tumacacori museum and were told we were wrong. We hold that the method of stringing rooms together in the big museum is caused by other factors than the best manner of displaying materials and, while it may be necessary in handling crowds in big museums, we can get better service by keeping the rooms separate and entering each one from the loggia in the Tumacacori plan. We want to enter room 1, circle it to the right and come out; enter room 2, circle it to the right and come out, and so on. Thus the whole collection of materials will be seen in their proper sequence from beginning to end. If a guide accompanies the party this method will hold the party together and eliminate scattering into the next room; it will give the guide a smaller room in which to talk, preventing distractions caused by other parties, etc; and will provide a sharp break in moving from room to room which could be used in several ways to emphasize the various points to be made in the trip through the museum. Unguided parties will come to the rooms in their proper order, and, entering each room, will circle to the right and see the materials in the proper sequence, and will see all the exhibits in each room.

By stringing the rooms together we raise several objections. With the guided parties, there will be a tendency when the guide goes down the right side of the room and tries to cross his party over to come back on the left for some of them to break away and go through the open door into the next room. With the unguided parties, there will be a tendency for the party to go down the right side of the room, take a glance at the left side and duck through the door into the next room where the same thing will be repeated. Since the materials are displayed in sequence around the sides of room 1 to the right and the visitor will miss most of the material on the left side of the room when he goes through the door, the result will be that he will, in effect, read the right hand sides or pages of your story and skip the left. No one can get much satisfaction out of reading a story that way. Individual exhibits may stand out in his mind when he finishes the right sides of your string of rooms, but the general story will, in the nature of the case, be garbled. If you don't agree with me, go watch ten thousand visitors go through such a museum.

The Educational Division men have complained that my method of circling each room, coming out into the loggia and going on to the next room makes an entirely too complicated path of circulation.

DISCUSSION ON TUMACACORI MUSEUM (CONT.)



You will note that when the path is actually plotted out as it will be followed by the party, the room to room method appears about as complicated as the room to loggia method.

The Educational Division men complain that in going from one room to the other by way of the loggia the visitor will lose interest in the story. My own idea is that these breaks between rooms can be so used as to increase the interest in the trip than to diminish it. A steady repetition of material over an extended time is likely to tire the interest. Broken by a walk out into the loggia and into the next room, which will allow a reference to the mission and a moment's talk about its construction while the guide points out various details which can be studied from the loggia, will change the line of thought and your visitor will arrive in the next room much more able to absorb information than if he had simply stepped through a door.

I am, therefore, in favor of entering the exhibit rooms in the Tumacacori museum from the loggia only and not going from room to room. I am quite sure this is the best method, but, if the Educational Division should insist on connecting doorways between rooms, I have no objection to putting them in, trying out their method with five thousand visitors, then trying my method with five thousand visitors and locking the set of doors which are condemned by the test. I would like to hear from some museum students with their predictions on which doors will be locked.

There is one other point of difference between ourselves and the Educational Division men. We want to put a background in our visitor's mind with the museum; then take him over to the ruins; then complete the picture back in the museum. The E-D men say we are wrong; that we must give the visitor all the ruins first and then all the museum or visa versa. We are quite sure we know what we want at Tumacacori and they are quite sure they think they know what we want. The difference of opinion causes a difference in handling the visitor through the museum.

Museum Plans

We come now to the actual plans which have been considered for the Tumacacori museum. The drawings show Plan 1 and Plan 2 with the proposed circulation through each plan.

DISCUSSION OF TUMACACORI MUSEUM (CONT.)

Plan 1

This was the plan we had worked up at Headquarters as best fitting all the factors for handling visitors at Tumacacori. The general theory was to hold the building low so it would not interfere with the Mission, which is, of course, the focal point of the Monument. It must be on the parking area, where the visitor can reach it immediately after leaving his car. Its exterior must be pleasing but not too ornate. It must be large enough to provide for reasonable expansion in the future, and we wanted it, in general, to fit into the mission ideas of architecture.

Plan 1 has a fairly large lobby whose entrance door would naturally draw the visitor since it is about the center of the façade and its decoration would mark it as the important entrance to the structure.

The visitor would be received and registered here and given any instructions which might be deemed necessary. The party would start from here with the guide and go through the room to the south and through the alcove to the south doorway.

In this short distance we hoped to get the visitor to understand who founded the Tumacacori Mission and why the Government had charge of its ruins. The lobby itself was to be of the mission type with beamed ceiling, reproductions of doors, windows, floors, etc., from other missions of the Kino chain; there would be an arch between the lobby and the alcove, a reproductions of the lost choir loft arch of the Tumacacori mission; the beams of the alcove would be a little lower than those of the lobby which would lead to an explanation of similar conditions, not now visible in the Mission itself. The alcove, we had expected to devote to the Park Service connection with this Mission and the cause of its being a National Monument. We had planned this so it would not be an anachronism in the lobby and yet we could get it in at this point of the trip. Plan 2 allows an alcove which could be used for this purpose, but it falls at the end of the entire trip which is much too late for it to be effective. We therefore propose, if Plan 2 is accepted, to change the working drawings so we can take the visitor through the lobby into the alcove and then go out through a doorway where the window is now shown; this will allow us to put the material in this alcove in its proper sequence in the trip. The doorway opening to the south out of the lobby in Plan 2 would be changed to a window. Plan 2 does not allow for the reproduction of the choir loft arch and duplication of lost conditions in the Mission as does Plan 1 and we consider it the poorer plan because of this.

Upon emerging from the doorway to the south, we want the visitor to find himself in an orchard showing the various shrubs and fruit trees which have been introduced into this country by the early padres. This will give an excellent chance for an introduction of the life and work of Padre Kino. This feature can be incorporated in Plan 2 as well

DISCUSSION OF TUMACACORI MUSEUM (CONT.)

as in Plan 1.

Next we want to re-enter the building through the south entrance and give the visitor the view of the Mission through the picture window. His only view heretofore has been from the State Highway as he approached the Monument, for we have purposely obstructed his view with our building and its walls when he debarked from his car on the parking area, thus building up for this moment when we can show it to him from the best possible point. This is a knock-out view and the axis of the building was set for this particular purpose.

As soon as he has had his first view, the various stages of mission construction will be explained to him using the diaramas, photographs, drawings, etc., which will be shown in the cases on the sides of the room. This room will have a domed roof which will give the guide a good chance to explain the constructions of domes in the various churches. This picture window room and the cases in it will be the same in both plans so either would be satisfactory to us.

We are now ready to take the visitor over to the ruins, explaining the original construction on the way, recalling pictures and plans which the visitor has just seen in the picture room and allowing him to rebuild the entire quadrangle of buildings in his mind's eye as he approaches the ruin.

After we have gone through the ruins we are ready to return to the museum for further information, and here the two plans diverge rather sharply. Plan 1 proposes to take the party through two large museum rooms, entering each room and circling it anti-clockwise, and allows a second view through the picture window as a break between the rooms. After coming out of the second room we pass through the loggia and into the lobby, which really becomes the last exhibit room for it will have numerous pictures, drawings and some artifacts of the later mission times. We still think Plan 1 is much superior to Plan 2 in this method of circulation after the return from the ruins. Plan 2 proposes to take the visitor into the west wing of the building near the north end and pass him from room to room until he meets his out-bound route in the alcove and goes back over it into the lobby. We have already voiced our protest against this poorer method of circulation and if Plan 2 is adopted we will want to change the openings in the museum rooms so that we can enter each room separately. This minor change we can make without much trouble when the working drawings are made up, and I signed Plan 2 in its preliminary stage with the expectation of having the working drawings so arranged.

Plan 2 represents our compromise with the Educational Division; we still consider it the poorer plan of the two from both the administrative and architectural angles but agreed to its general scheme in order to keep peace in the family. As an instance, I have spoken of the beamed

DISCUSSION OF TUMACACORI MUSEUM (CONT.)

roof in the lobby and the domed roof over the picture window room. It was our scheme, in Plan 1, to have a barrel vault over the east museum room and a groin vault over the west museum room. As the visitor went through the building these various roofs or ceilings would be pointed out in their proper sequence from the simple to the most sophisticated and their uses in the mission architecture could be discussed. The beamed ceilings of the west wing allowed that wing to be kept low, which is what we wanted on that side, and the barrel and groin vaults raised the walls on the south wing, which was no objection.

In Plan 2 if we put the ceilings in their proper sequence we will have the barrel and groin vaults in the west wing which will raise the height of that wing, a thing the architects do not want. They then want to upset the sequence of the roofs and show them to the visitor in the wrong sequence in order to keep the proper appearance for the exterior of their building.

In Plan 1 the entrance doorway is located near the center of the façade where, with its normal decorations, it becomes a decorative motif in the west elevation. In Plan 2 the doorway is pulled down to the right too far to serve this purpose and so an artificial window, which will not be used to light anything, has to be introduced in order to balance the exterior appearance of the building.

Lest you think that Plan 1 is my own brain-child and that I am defending it on that account, I might interpolate the information that it was designed and drawn by Mr. Tovrea, who is both an architect and an engineer, and it fits our problems so well that I gave it up with the greatest reluctance, simply as a matter of playing ball with the Educational Division, and not because I believed for a moment that it was the poorer plan. To speed the plans I signed the preliminary of Plan 2 with the circulation plan as shown, but, in the working drawings, I want the openings changed in the west wing to provide what I consider the proper circulation for the problem which we face at this individual Monument.

By Erik K. Reed

Last time I saw you, you said that the notes on Texas missions in your June report were published partly to get some criticism. Here goes.

First of all, the final location of Espiritu Santo was not Victoria, but Goliad. Work on this mission has been one of the foremost SPECW projects in Texas for over a year, and the people in Washington really ought to know where it is. The Zacatecan mission of La Bahia del Espiritu Santo de Zuniga was moved from the Garcitas River (site of Ft. St. Louis) to near Victoria in 1726, from there to Goliad in 1749. From 1750 to

TEXAS MISSIONS (CONT.)

1840 or so, La Bahia (Goliad) and San Antonio were the key points of Texas.

Mission N. S. del Santisimo Rosario was also on the San Antonio River close to Goliad, about four miles from Espiritu Santo.

According to all references that I can remember, N. S. Del Refugio was established in 1791, not 1793.

The west Texas missions (At El Paso and at Presidio) were separate from those of east and south Texas, and really belong rather with the New Mexico chain, tying in especially with the Salinas missions; but I want to be sure that they are not forgotten - S. Francisco de las Sumas and others; founded between 1660 and 1690 and thus even older than the Texas missions proper.

There are some other points that I think are a little off, but my notes aren't immediately available. May I refer you to the extremely fine publications on the history of Spanish Texas by H. E. Bolton.

THREATENING ROCK

By Andrew E. Clark, Transitman

The following is a report on the Threatening Rock near Pueblo Bonito at Chaco Canyon.

On November 2, 1935, Mr. C. E. London and I set a steel bar and pipe in the cliff and the Threatening Rock respectively, both set in concrete in such a manner that the bar was allowed to slide freely on the inside of the pipe if any movement should occur. A mark was made on the bar at the end of the pipe with a hack-saw blade.

On September 21, Mr. Hamilton and I made an inspection of the gauge and a movement of one-half inch was indicated.

Mr. Hamilton is of the opinion that we did not fasten the rod into the solid cliff, but into a rock which might have moved some. It is my opinion that if this rock on the cliff side had moved, it would be much more probable that it would move outward and not back toward the cliff. In this case, the movement of the Threatening Rock would be even greater than the one-half inch as indicated by our gauge.

We plan on setting two additional gauges similar to the one already set, for a more accurate check on the Threatening Rock.

RUMINATIONS

I have recently discovered that there are still a few of the old style Southwestern roads left in this district. We got a sharp contrast recently when, after driving from Cameron to the Colorado River over that fine piece of road, and crossing the bridge, I asked Don Carlos to turn to the right and go up to the old Lee's Ferry Crossing over that six miles of old time road. It is a typical stretch of what dozens of miles of the old Lee's Ferry road used to be and gives one a great appreciation of the present road around to the north rim of the Grand Canyon. We tried to take some pictures of the 'dug-way' as the local folks call it, on the far side of the river where the shelf road ran up from the crossing to the top of the cliffs. The films are not yet developed and we don't know what success we had, but examined from where we stood, it gives you a great respect for these modern roads we are traveling. Then, when you are thanking your stars you don't have to go up that dugway with a Model T Ford, one of the natives will come along and tell you: "That sure was a great improvement when it was built. Now when the Mormons first crossed here they took their bull teams and wagons up that ridge over yonder and went out over the top back up there;" and he points up a twenty-five percent grade which is about as wide as the ridge pole of a house roof and which wanders off up to the tops of the cliffs, giving at least a hundred chances to pile your outfit up in that many canyons before you ever reached the plateau.

Last year, when we were parking at the little Lodge at Cameron, where Mr. and Mrs. Richardson make resting a fine art, and were expecting to go out to Lee's Ferry the next day, I made inquiries of a California driver who had just come through on the Lee's Ferry road as to its condition. He said it was in terrible bad condition, a lot of it was not yet surfaced and there was one stretch of ten miles that was not even graded! The next day we spun along at forty miles an hour over that terribly bad road and wondered how those old Mormons with their bull teams would have reported on it. After all, good roads are largely a matter of comparison.

Going down into Zion Canyon over those beautiful grades and through that magnificent tunnel, I was reminded of the time we slipped and skidded the old Model T down that steep slope into Rockville the second summer after it was built and, meeting Dave Dennett on a road drag near the bottom, stopped to compliment him on the quality of road he was maintaining. Dave said it was sure in good shape and he had lowered the grade since last year, too; there wasn't a bit of it over twenty-five percent now! The old Model T wouldn't feed gas to the carburetor going up that grade but we were set for emergencies like that in the way of a tire valve soldered into the gas tank allowing us to pump air into the gas tank and make the old girl get her gas up any hill she could navigate. There was another one of those steep grades, running about twenty-seven percent, going up the Carlsbad Cavern hill when we took it over. Fords didn't feed gas up that grade either.

RUMINATIONS (CONT.)

We found another piece of road which kept Don Carlos fairly busy for a couple of hours. It was that stretch between Richfield and Price where you go over the mountains. It is about as rough as it was twelve or fourteen years ago when I first went over it and as crooked as it well can be and a railroad track goes over through that same pass and it and the road swap sides about every quarter of a mile; and Don Carlos didn't find out, it being in the night, until we were nearly through the pass, that the blamed railroad had been abandoned four or five years ago and there wasn't any particular danger of a train running us down on one of those hairpin turns when we were crossing the tracks. We broke a front spring and a rear shock absorber arm on that stretch of road, so you know it wasn't any boulevard.

I like these old pieces of the roads of other days, but I don't want too many of them!!

On the other hand, it is interesting to wind over these easy grades on a paved surface going up some of these passes and look down on the twisting, winding, stair-case grade of other days, now abandoned and overgrown, and wonder how you ever coaxed a Model T up there.

After all, good roads are just a matter of comparison; if my Grand-dad, when he crossed the plains in '51 could have had a road as good as that one in which we broke our spring how happy he would have been!

Cordially,

The Boss -

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
PETRIFIED FOREST NATIONAL MONUMENT

October 1, 1936.

NARRATIVE REPORT FOR SEPTEMBER, 1936.

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

There follows our narrative report for September, 1936:

000 - GENERAL:

010. The registered travel through this monument for September, not including the Painted Desert Section, was 9,950. This is an increase over September, 1935, of 2,816 or 39%. This month also marks the end of the travel year 1936, making a total travel of 94,889 people through the Petrified Forest proper. This is an increase over 1935 of 24,378 people or 34%. In addition, we estimate that 66,305 took the Painted Desert Rim Drive who did not go through the Forest proper.

020. Weather conditions were normal except that it was colder than usual during the last part of the month.

A table of weather statistics follows:

Maximum temperature 93. Minimum temperature 35.
Mean Max. 80. Mean Min. 52. Mean 66. Precipitation 2 in.
Clear days 11. Partly cloudy 15. Cloudy 4.
Greatest precipitation in 24 hours, .66 inches, on 18.

100 - ADMINISTRATIVE:

. 110. Administrative and office work is near current.

123. National Park Service Officers in the monument on official business were: Arno B. Cammerer, Director, National Park Service; M. R. Tillotson, Superintendent, Grand Canyon National Park; Frank Pinkley, Superintendent, Southwestern National Monuments; Richard D. Sias, E.C.W. Inspector; Dr. H. C. Bryant, Assistant Director; Mr. A. E. Borell, Wildlife Technician; Mr. Ansel F. Hall, Chief, Education Division; W. G. Carnes, Deputy Chief Architect; Charles A. Richey and Alfred C. Kuehl, Associate Landscape Architects; Howard Tovrea, Assistant Engineer; H. H. Cornell, Regional Landscape Architect, E.C.W. and Cecil J. Doty, Regional Landscape Architect.

124. On September 13, G. L. Melane and Levant Brown of the Bureau of Public Roads were in the monument for the purpose of planning flood control at the Dry Creek bridges on the monument highways.

170. The survey party, which arrived last month, completed their work at the Painted Desert and left about September 20.

200 - MAINTENANCE, IMPROVEMENTS, AND NEW CONSTRUCTION:

210. Under Post Construction and Minor Roads Allotments, all unpaved roads have been kept in good condition and foot paths and trails have been repaired.

300 - ACTIVITIES OF OTHER AGENCIES IN THE PARK:

317. The seal coating of the monument highways was completed and the contractor moved out about the 10th.

On September 28 and 29, Captain Bradley, U. S. Army Quartermaster, made a survey for the rehabilitation of the E.C.W. Camp buildings.

400 - FLORA, FAUNA, AND NATURAL PHENOMENA:

410. On the ranger and naturalist force we have been desperately undermanned during the month. All of the seasonal rangers were given their earned annual leave so their services were practically lost during the greater part of September. Annual leave was also granted to the Park Naturalist and one permanent ranger.

420. Museum service was given to 8,126 people.

470. Antelope are seen near the highway from time to time.

500 - USE OF PARK FACILITIES BY THE PUBLIC:

510. During September visitors registered from the District of Columbia and every state except New Hampshire. The following countries were also represented: Czechoslovakia, South Africa, China, England, Switzerland, Philippine Islands, Canada, Mexico, Australia, Germany, Hawaii, France, Ecuador, Denmark, India, Japan and Panama.

Among our visitors in addition to those elsewhere reported were: Barnum Brown of the National Museum; Sir Yeshwant Reo Holkar, Maharajah of Indore; U. S. Senator Carl Hayden and secretary; Mr. Carl McCollum, owner of the Kansas City Star; Dr. M. W. Sensits, University of Michigan; G. H. Gleason, Metallurgist, Gugenheim Brothers; Hazel M. Schmall, Field Museum.

TRAVEL STATISTICS:

Through the Petrified Forest proper:

	<u>cars</u>	<u>people</u>
For the month - - - - -	3,180	9,950
Previously reported - - - - -	25,981	84,939
Total for travel year - - - - -	29,161	94,889

Painted Desert Rim Drive* - - - - - (Est.)

For the month - - - - -	2,206	6,908
Previously reported - - - - -	18,292	59,397
Total for travel year - - - - -	20,498	66,305

Grand total for travel year - - - - - 49,659 161,194

* Exclusive of travel through Forest proper.

900 - MISCELLANEOUS:

On September 2, Director Cammerer arrived and on the 3rd I had the pleasure of taking him to Canyon de Chelly National Monument. We arrived at Ganado at noon and found that there was a celebration in progress, with a barbeque, at which hundreds of Indians were present. Meals were being served cafeteria style and the Director insisted on having me as his guest for luncheon. The cost of the lunches was terrific. (Those interested in the cost please ask the Director). The night was spent at Thunder Bird Ranch and we left the next day, the Director going on with Superintendent Pinkley from Ganado.

On September 17, Sir Yeshwant Reo Holkar, Maharajah of Indore, with his retinue of four cars came through the Forest. The Maharajah was in front with his wife driving an English coupe. He spoke English perfectly and seemed to be very democratic. He purchased a large number of fine polished specimens of petrified wood from the Operator and had them sent to India. The mode of purchase was -- the Maharajah would select a specimen of polished petrified wood or an article of Indian jewelry he or his wife wanted and the representative of Thos. Cook & Sons would pay for it and take it away.

On September 18, U. S. Senator Carl Hayden came through the Forest from Window Rock (Central Navajo Agency) and went on to Holbrook where he addressed the Rotary Club. As President of the Holbrook Rotary Club, I had the pleasure of introducing Senator Hayden for his talk.

And so another travel year is ended with excellent travel and fine prospects for the future. The Petrified Forest is becoming better known all the time. With the completion of the proposed development at Painted Desert, this Monument is bound to become one of the most popular and interesting units of the National Park Service.

Respectfully submitted,

Chas. J. Smith
Chas. J. Smith,
Superintendent.

Notes by Ranger Naturalist James E. Felton follow. Notes by Park Naturalist M. V. Walker will be continued next month.

Visitor Surprises in the Petrified Forest

Many times we rangers wonder if we haven't answered all the questions that might be asked concerning the forest. To most of us the most surprising questions are the ones asked about our weather. From July 15th until early in September the green appearance of the meadows in the Monument seems most unexpected to sight-seers. Many apparently think all of Arizona is a hot, dry, desert region. Daily rains in the country adjoining the Monument hold our August temperatures down to the "eighties". On a few days during the rainy season visitors are caught in sudden downpours. They are most surprised to learn that at this time of year they may be soaked most unexpectedly. The elevation of our plateau makes for cool nights, and air that is pure and light. Many of our "dude friends" delight in these pleasures.

A few close observers see some of our wild-life. Most likely to be seen are rabbits hurrying from behind the petrified logs. In this class might be placed the Antelope-Ground-Squirrels which scurry among the rocks at Agate Bridge. Once in a while a "dude" reports seeing a deer, then it is necessary to tell him that it was an antelope. Our collared lizards come in for their share of attention, especially during the spring mating season when their brilliant black neck band stands out in contrast to their light green body scales. "Are they poisonous"? we are asked, but more often we have to caution the more adventurous visitor to leave the lizards here and not carry them home as pets.

Occasionally some visitor asks if man has uncovered all the logs. Carefully we explain that wind and water exposed them all; then the next question to be expected is, "Who sawed the logs in-two?" Best of all and perhaps the most flattering question goes like this: "Do the rangers saw the logs in-two during their spare time?"

Nearly all "dudes" are surprised to see the logs broken so evenly across, but in the writers opinion the tendency of the petrified logs to break across cleavage planes, or crystalline faces, causes them to break and look as if they had been sawed.

Unusual Visitors

For most of this month wild ducks may be seen on a rain-water lake at the West entrance of the Monument on highway 260. Usually there have been from five to thirty-five of these birds on the pond. Twice recently the writer has attempted to stalk them. They are quite nervous and take to the air on slightest provocation flying directly North, then dropping down on a cattle water tank which is just outside the Petrified Forest boundary. Most of the Ducks are Mallards and early in the month we had a 100 per cent Mallard Duck population; however on the 17th of September I saw among the flock six Cinnamon Teal.

With the coming of Fall perhaps other groups of ducks will stop in on their way South. As yet no birds of this family have been observed on the two Antelope watering tanks in the Monument. Perhaps it is because grasses which provide them with food are not abundant near the newly-created ponds. The older rain-water lakes cover some of the best grasses, providing a natural and plentiful food supply for these wild game birds, so perhaps when we have our normal summer rains, wild ducks are not so unusual in the Petrified Forest.

Ranger-Naturalist
James B. Felton

SOUTHWESTERN MONUMENTS
MONTHLY REPORT
OCT. 1936.



DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

1910

SOUTHWESTERN MONUMENTS

OCTOBER 1936 REPORT

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SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona; Frank Pinkley, Superintendent; Hugh M. Miller, Assistant Superintendent; James Luther, Chief Clerk; J. H. Tovrea, Assistant Engineer; Robert H. Rose, Assistant Park Naturalist; Charlie R. Steen, Junior Park Naturalist; Millard Singerman, Clerk-Stenographer, Luis Gastellum and W. H. Sharpe, ECW Clerks.

FIELD STATIONS

1. Arches - Moab, Utah, J. M. Turnbow, Custodian.
 2. Aztec Ruins - Aztec, New Mexico. Johnwill Faris, Custodian
 3. Bandelier - Santa Fe, New Mexico. Jerome W. Hendron, Acting Custodian.
 4. Canyon de Chelly - Chin Lee, Arizona. Robert Budlong, Custodian.
 5. Capulin Mountain - Capulin, New Mexico. Homer J. Farr, Custodian.
 6. Casa Grande - Coolidge, Arizona. W. J. Winter, Custodian;
J. D. Erskine, Ranger.
 7. Chaco Canyon - Crownpoint, New Mexico. Thomas C. Miller, Custodian.
 8. Chiricahua - Willcox, Arizona. Frank L. Fish, Custodian;
Homer Bennett and Bronson Harris, CCC Guides.
 9. El Morro - E. Z. Vogt, Custodian. Ramah, New Mexico.
 10. Gila Cliff Dwellings - Cliff, New Mexico. No Custodian.
 11. Gran Quivira - Gran Quivira, New Mexico. George L. Boundey, Custodian.
 12. Hovenweep - Cortez, Colorado. No Custodian.
 13. Montezuma Castle - Camp Verde, Arizona. Martin L. Jackson, Custodian.
Russell Farmer, Ranger.
 14. Natural Bridges - Blanding, Utah. Zeke Johnson, Custodian.
 15. Navajo - Kayenta, Arizona. John Wetherill, Custodian.
 16. Pipe Spring - Locoasin, Arizona. Leonard Heaton, Acting Custodian.
 17. Rainbow Bridge - Rainbow Lodge, Arizona. No Custodian.
 18. Saguaro - Tucson, Arizona. No Custodian.
 19. Sunset Crater - Flagstaff, Arizona. J. W. Brewer, In Charge.
 20. Tonto - Roosevelt, Arizona. Francis Stevenson, In Charge.
 21. Tumacacori - Box 2225, Tucson, Arizona. Louis R. Caywood, Custodian.
 22. Walnut Canyon - Flagstaff, Arizona. Paul Beaubien, Ranger.
 23. White Sands - Alamogordo, New Mexico. Tom Charles, Custodian.
 24. Wupatki - Flagstaff, Arizona. J. W. Brewer, Ranger.
 25. Yucca House - Cortez, Colorado. No Custodian.
-

CONDENSED REPORT

Coolidge, Arizona
November 1, 1936

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for October:

TRAVEL

	<u>October, 1936</u>	<u>October, 1935</u>	<u>October, 1934</u>
Aztec Ruins	815	1,155	645
Bandelier	728	559	803
Canyon de Chelly	119	64	129
Capulin Mountain	400	1,200	1,000
Casa Grande	2,190	2,281	1,825
Chaco Canyon	732	615	826
Chiricahua	690	---	---
El Morro	169	160	---
Gran Quivira	159	339	288
Montezuma Castle	499	666	1,080
Natural Bridges	65	---	---
Pipe Spring	89	220	420
Sunset Crater	287	---	107
Tonto	217	332	259
Tumacacori	808	711	1,155
Walnut Canyon	758	687	499
White Sands	5,979	3,507	---
Wupatki	155	100	141
Actual Reported			
Registration	14,859	12,696	9,177

Travel in the Southwestern Monuments for October shows a gain of a little more than 2,000 over the visitor count for last September. Exactly half of this gain, however, was made by three monuments for which there were no reports in 1935. The out-of-the-way stations are showing a definite decrease in traffic due to poor roads and wet weather. This is a seasonal occurrence, and to be expected. Most of the other monuments have also fallen behind last year's figures; the loss in the total count was taken up by a decided gain at White Sands.

The recent storms in the Rockies have made themselves felt in the Southwest. Snow has fallen on the plateau and cool days and nights with some rain in the desert. The Navajos at Canyon de Chelly are predicting the most severe winter in years while at the same time the U. S. Weather Bureau is telling the farmers to look forward to another warm winter with a sub-normal rainfall--we shall see. At any rate, while the custodians of the northern monuments are preparing to hole up and do a lot of odd jobs which have been hanging fire for months, the men in the south are

CONDENSED REPORT (CONT.)

preparing for a very heavy tourist season. Hotels and tourist associations are looking forward to one of the heaviest travel years on record.

120 PARK INSPECTION BY

121 SUPERINTENDENT

Gran Quivira, Tumacacori, Saguaro, and Bandelier.

123 NATIONAL PARK OFFICERS

Gran Quivira - Charlie R. Steen

El Morro - Robert R. Budlong

Tumacacori - Charles A. Richey, Clinton Rose, J. H. Tovrea, Scofield deLong, Richard Sutton, A. L. Skidmore.

Walnut Canyon - H. B. Chase, A. C. Kuehl, Charlie Steen, T. C. Miller

Wupatki - Eric Reed

Chaco Canyon - Charlie Steen

Montezuma Castle - A. J. S. Eccleson

Casa Grande - Custodian T. R. Goodwin, Death Valley National Monument T. C. Miller, Neal A. Butterfield, A. E. Underhill.

Chiricahua - Clinton Rose, Charles Richey, J. H. Tovrea, W. W. DeLeon Ward Yeager, Adrey Borrell, Lyle Bennett.

Aztec - Charles Richey, George Collins, Charlie Steen

Bandelier - Charlie Steen, Jack Diehl, J. B. Hamilton, Addison Pinkle
Carl Schmidt.

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

220 IMPROVEMENTS

Wupatki - Trail to new parking area was completed and a screen of native shrubs and grasses planted.

230 NEW CONSTRUCTION

Chiricahua ECW

Massai Point road rock slide is nearly cleared. About 1500 yards of rock and dirt have been removed.

2000 feet on Echo Point-Rhyolite Canyon Trail constructed. This trail is nearly complete.

Headquarters Ranger Station 70% complete

Equipment shed walls 50% complete

Headquarters and Echo Park parking spaces staked out, construct will start soon.

Chaco Canyon - Engineer Clark's engineering crew made plans for the proposed approaches to the bridge over Chaco Wash. While at the Monument two new gauges were set in Threatening Rock.

CONDENSED REPORT (CONT.)

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

230 NEW CONSTRUCTION (CONT.)

White Sands - Engineer Clark and party have been staking out stakes for three miles of road into the sands.

Bandelier - An engineering crew is doing preliminary work for surfacing the entrance road.

Bandelier ECW -

Signs for Walnut Canyon and Aztec Ruins National Monuments were finished and shipped. Chiricahua signs are being prepared at present.

Two root cellars are complete and the third nearly so.

Equipment shed project was completed.

Some planting was done during the month.

Roofing material was secured from the clearing of a right-of-way by the Forest Service near the monument.

New enrollees were kept busy on the rock quarry project.

300 ACTIVITIES OF OTHER AGENCIES IN THE MONUMENTS

320 COOPERATING GOVERNMENT AGENCIES

Chaco Canyon - The Soil Conservation Service has continued its activities in flood control.

Canyon de Chelly - Geological Survey is determining the monument boundaries.

350 donations and accessions

Chaco Canyon - The School of American Research has given a collection of forty books and scientific reports of the Monument.

400 FLORA, FAUNA, ETC.

420 MUSEUM SERVICE

Bandelier - Work is progressing on the installation of new exhibits in the new museum. The "Trash Mound" case and relief model of Tyuonyi are occupying most of the attention of workers at present; the former case is nearly complete.

430 ARCHEOLOGY

Wupatki - Eric Reed, ECW archeologist, is cleaning out room 7 of Wupatki Pueblo. This room, from which much restorable pottery and some artifacts have been recovered, has been badly washed by rains.

CONDENSED REPORT (CONT.)

470 ANIMALS (CONT.)

Opening of the big game hunting seasons in the southwestern states has caused a concentration of deer in several of the monuments. This is a yearly occurrence.

600 PROTECTION

620 FIRE PROTECTION

Walnut Canyon. - A small fire was started in the vicinity of the Monument by a group picking pinyon nuts. The blaze was under control by the time the custodian arrived.

630 ACCIDENTS

Capulin Mountain - Custodian Farr reports that more than two hundred fifty thousand autos have travelled the three-mile road up the mountain without an accident of any sort. This should establish a record of some sort.

MISCELLANEOUS

MAIL COUNT:

Incoming		
Personal	881	
Government	<u>1,684</u>	
Total Incoming		2,565
Outgoing		
Government only	1,959	<u>1,959</u>
Total Mail		4,524
Telegrams		
Incoming	43	
Outgoing	<u>42</u>	
Total Telegrams		<u>85</u>
Total pieces of mail handled		4,609

Cordially,

Frank Pinkley

Frank Pinkley,
Superintendent.

REPORTS FROM MEN IN THE FIELD

AZTEC RUINS

By Johnwill Faris, Custodian

Visitors for the month total 815 which is not quite up to par, but enough to keep us busy the way they string in. Our parties this time of the year often number only one or two to the party and in reality we are on the go about as much as we are in mid season when our parties number ten to 20. Such is life in the wild West, however, and after all it is a grand time we are having whether our count is one or 100.

Other than the visitors the month has been very normal. No work on the side has been going on and really it hardly seems that I should be writing a report and not fill it up with the progress of various projects.

Official visitors for the month include Mr. Collins, of the District Office, and Chuck Richey, also of the District Office. Charlie Steen was in for a few days and we had a great time with him. It was his first visit here and we hope that now he has broken the ice he will drop in quite often.

This hardly seems like a report, Boss, but it covers the subject and any more at the present time would be folly so I sign off one of my shortest reports in months.

TONTO

By Francis Stevenson, In Charge

It was a good month at Tonto - good visitors, good weather, and a good time by all.

Statistics tell the story pretty much. There were a total of 217 visitors from almost every section of the country. These composed 65 group trips to the ruins and 75 to the museum. The visits averaged 45 minutes to the ruins and 15 minutes to the museum. There were 177 guided to visit the ruins and 209 the museum. The total time for trips to the museum was 2,943 minutes and to the museum 1,137 minutes.

The callers all showed keen interest in the ruins and the life of the old Indians. Many, however, found the going a little tough and suggested an escalator to replace the winding gravel path.

The trail seems in good condition.

The mice and I seem to be fighting a draw but life is very pleasant in the little stone castle amid the cactus.

CASA GRANDE

By W. J. Winter, Custodian

Traffic did not increase much this month until the last few days, which have been fairly heavy. If this continues next month's report will show a substantial increase. The total number shown through the ruins was 2,190. These came from 38 states, Hawaii and the District of Columbia, as well as Canada, France, England and Kenya Colony, British East Africa. One lady registered from a battleship, the U.S.S. Oklahoma, thereby giving rise to considerable speculation on the part of those of us who know our navy.

No special large groups are recorded. Several visitors worthy of special mention were received, among them being Robert Marshall, Director of Forestry and Grazing, Office of Indian Affairs, Washington, accompanied by W. H. Zeh, U.S.I.S. of Albuquerque, on October 3. October 4 we met Volney A. Jones, Ethnobotanist of the University of Michigan Museum, Ann Arbor. You will recall the correspondence (published in this report) between Charlie Steen and Mr. Jones regarding our "ceremonial cigarettes". October 4 we also met Elizabeth Toohey, State Historian of Arizona. October 4 seems to have been an interesting day, for it was also on that date that a Phoenix car drove up to the curb and there emerged a lady, her husband and three girls and when I inquired if they wanted to visit the ruins the lady replied, "Oh, no, we don't want to waste that much time!" That stopped me.

Several NPS visitors were recorded for the month. September 25 T. R. Goodwin, Custodian of Death Valley National Monument, came in for a few minutes. October 16 and 17 we had the pleasure of again seeing Custodian Cal Miller of Chaco and of meeting Mrs. Miller. Cal still thinks he has the best monument in the Southwest, even after several visits to this one. What can you do with a guy like that? October 24 we met Neal A. Butterfield of the Washington Office, Branch of Planning and State Cooperation.

Day temperatures this month ran from 71 on the 24th to 102 on the 11th. Night temperatures were from 43 on the 22nd to 68 on the 16th. Precipitation was .22 inch.

We are still contending with our balky sewer pump and hope that the plans for the new system are turned loose pretty soon. We wouldn't feel normal if we couldn't gripe about something. Our newest gripe is an old one revived -- shortage of personnel. The winter rush seems to have started just in the last few days and has made very apparent the need for an additional guide. Our authorized temporary man won't go on duty until January 1 and we hate to think of the two months between now and then, if the crowds keep up as they have been for the last three days.

Another improvement that is hanging fire is the resurfacing of our entrance road and parking area. A. E. Underhill is here to supervise the

job and we have enjoyed getting acquainted with him. We don't always tell the truth, either. (Now Everett will claim that we pondered half a day to think up that bum crack. Maybe we did.)

Now that we have practically run out of things to say, we get to nature notes. "Sort of a last resort," say we dirtily, looking at Jr. Naturalist Steen. The first Gambel Sparrows of the season were observed October 13. None have been caught as yet. Bats in the ruins are not as plentiful as last month. There has been a shake-up in the owl family in the Casa Grande. For about a week we missed one of the owls. October 17 we found his body in one of the low house ruins in Compound A, north of the Casa Grande. Cause of death unknown. For several nights thereafter the other owl hooted continuously all night - at least he was still at it when any of the bachelors came in from their dates, so we may say it was all night. Within a week another mate was attracted (by the owl, not the bachelors), and now there are again two owls to be seen up in the roof, just as before. We wonder now how many times this may have happened since a pair of owls was first noticed in the roof, which we understand was many years ago.

Charlie Steen reports that our gas delivery man is a big help to the bird banding industry. It seems that he met Steen and said "You know that there little cage out behind your house? There was a bird got caught in there and I was going to take him home to my kid. I put him in my pocket, and y'know, he got away!" Which livened the day for Custodian if not for the bird banding naturalists.

CANYON DE CHELLY By Robert R. Budlong, Custodian

During the month of October, 1936, we had a noticeable increase in visitor travel over that of October, 1935. Total visitors this months, 119. (In October, 1935, 64 persons visited this National Monument.) This month's visitors took trips as follows:

TRIP	NO. TRIPS	NO PERSONS	TOTAL TIME	AVERAGE TIME PER TRIP
Rim	10	30	1,380 Min.	138 min.
Trail	1	3	180 Min.	180 min.
Car in Canyon	20	89	3,960 Min.	198 min.

Car trips within the canyons should be broken down as follows:

	TRIPS	PERSONS	TOTAL TIME	AVERAGE TIME
Concessioner's car	4	9	1,320 min.	330 min.
Other cars (22)	16	80	2,640 min.	165 min.

CANYON DE CHELLY (CONT.)

Visitors arrived in 37 cars, each car averaging 3-plus persons. Increase in number of visitors this month, over the same month last year, was 46 per cent.

Weather seems to be a little more winter-like than during October last year. Maximum temperature this month, 87 degrees, on September 25; minimum 26 degrees, on October 8 and 9. Greatest range in 24 hours, 60 degrees, on October 9; least range in 24 hours, 12 degrees, on October 20. Total precipitation during the month .26 inch. First killing frost was on October 7. The leaves on the cottonwoods promptly turned a bright yellow, furnishing a new color note in the general landscape. Nights are cold, and we had a trace of snow early in the morning of the 19th. Hail fell hard for a few minutes the afternoon of the 21st, the hailstones measuring about a quarter of an inch in diameter. Both snow and hail melted shortly after reaching the ground. At this writing the Lukachukai Mountains have a light capping of snow.

"Doc" and Mrs. Gipe left this Monument for Headquarters the afternoon of the 5th. I was in Gallup at the time, but Doug said he never saw people pack up and move in such a short time. The skies threatened rain or snow, the work was finished, and they took no chance of being caught. We hope their old truck, "Hohokam", made the trip to Headquarters without any troubles along the road, but are inclined to doubt it.

Mr. E. E. Harris, of the Geological Survey, arrived at this National Monument with a crew of four men on October 10, taking temporary quarters in "Doc's" deserted tent. They started establishing levels for the work of accurately determining the boundaries of this National Monument the following morning, and at this writing have only about one more day's work remaining. At least, they did have, up until last night. While they were in Canyon del Muerto, rain fell in the upper reaches of Canyon de Chelly, and as they drove their car down-canyon below the forks of the two canyons the water kept slowly rising. There was nothing to do but keep on, and they almost made it - but not quite. A patch of new quicksand caught their car just within the mouth of the canyon, and it bogged down to the frame at once. They spent all evening and much of the night trying to extricate it, but the water kept rising, and the sand grew softer, affording no footing for timbers or fulcrums for the pry-poles.

A dam was built upstream from the car to divert the water, and when finally the sand grew more firm they managed to get the car out, using three teams and many Navajos. The Custodian managed to shoot a dozen photographs with his Graflex, to be used in the future in convincing skeptical visitors that cars can get badly stuck or lost in the sands within the canyons.

Mr. F. Armstrong Roberts, of photographic fame, visited this Monument the 4th and 5th of October. He took several hundred photographs during his two days' stay, and we are hoping to see some in the near future.

And so winter draws near, and shortly visitor travel will cease almost entirely. The Navajos predict the hardest winter in many years, and this year we believe their predictions may be correct.

MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Have had 499 visitors from the first to the 23rd, inclusive. The last five days of last month were estimated and went in on the annual travel figures. 228 made the climb up to the Castle.

Roads leading into the Monument are still in bad condition and more road work is yet to be done this winter.

The past month has been a rather hectic one with us. On the 11th of last month I managed to knock some teeth out cranking the gasoline electric motor. I went to the doctor immediately and he thought they might tighten up and grow back naturally but no such luck. They became badly infected and when the smoke cleared away the dentist had gotten eight teeth. Meaning that I have been without any front teeth for the better part of the month. It was impossible for me to pronounce some words very distinctly - made a kind of whistling noise. Was in constant fear that some visitor would possibly think I was whistling at them or maybe to date up some lady. So far have not been landed on.

Russell Farmer, the new ranger, arrived on the first, and took hold of the situation here like an old war horse. Mr. Farmer comes from Lassen Volcanic National Park.

During the month we had a nephew of Andy Mellon (The Andy Mellon) in to visit us with his family. He is the founder and head of the Gulf Oil Company and seemed to enjoy the Monument a lot - coming to the place three times from a neighboring guest ranch.

A. J. S. Eccleson, Special Agent of the Department of the Interior, was in looking over the books of the Concession for a day or so.

Dr. Byron Cummings, Dean of Archeology of the University of Arizona, was a visitor about ten days ago, coming in with Mr. and Mrs. Gable, also of the University.

Ranger Bingamon and wife were in on the 15th from Yosemite National Park.

We bring the month to a close with the weather looking very unsettled and stormy with reports of snow in the mountains to the north and around Flagstaff.

WHITE SANDS

By Tom Charles, Custodian

The only excuse that I have to make a report this month is the precedent which the other boys have established.

Except for the fact that the Park Service crew of surveyors under A. E. Clark, is here and settling grade stakes there is no news except visitors. Mr. Clark's party is setting stakes for the first three miles of road into the Sand. Twenty-five thousand dollars was set up for this work. There are still lots of visitors. Sunday, the 18th, Mrs. Charles and I were at the Sands six hours and counted 47 cars at the turn-around. They seem to come in about as fast as when the weather was warmer, the only difference being that the hours are not so long; they visit about 10 hours a day now instead of 14 as they did in the summer.

It is a long drive from the days when I first saw these White Sands to their present state of development. Then there were over 100,000 acres of these alabaster dunes held by one group, under their mining claims. The smoke of the mesquite roots gave the desert air a tang, the creaking of heavy machinery left the impression of the busy, business life.

Across the chalky hills, to the new town of Alamogordo, the six ox team of longhorn cattle moved at a snail's pace. The heavy, wide tired, wagon creaked and groaned under the tons of snow-white Plaster of Paris. And Industry proclaimed that there would come a day when the use of gypsum would make these hills the commercial centre of the great Southwest.

These industrial prophets were at least 50% correct, the day of gypsum has arrived; the skyscrapers of the city are built of steel and gypsum, the fire-proof walls, the wall boards, even the tile of the floor and the roof is gypsum and a late issue of Fortune tells us that the modern oak finishings are made by pasting the photograph of an oak board on a slab of Plaster of Paris.

There are millions of tons of gypsum used annually in the United States alone. But every one has gypsum. They put it on board ship in Nova Scotia for \$1.00 a ton and there is plenty of it to supply the Atlantic sea coast for years to come. Arizona, New Mexico, Texas, all have inexhaustible supplies of gypsum in one form or another and it is just as good as ours for commercial purposes.

But if you will let me classify this material into commercial gypsum and recreational gypsum, then we begin to shine for in recreational gypsum the White Sands has no competition. No place else is there alabaster sand dunes with the beauty and splendor of the Great White Sands; no place else do they have gypsum that the children cry for and the grown-ups love to play and dig and bury themselves in; no place else do they have gypsum where you can turn 3,600 school children

WHITE SANDS (CONT.)

loose, without preparation, and without fear of injury from sticks or stones or stings or snakes or anything else. And we thank the lucky stars that White Sands has escaped commercialization.

About five years ago there was definite turn toward the inspirational. The chambers of commerce of a dozen towns demanded the reservation of the area for recreational purposes. Horace M. Albright answered the call for considering the area; Roger Toll made an official inspection and President Hoover declared the area a National Monument.

In the past year 25,000 children have enjoyed the pleasures of a romp in the national sand pile; 1,000 teachers have carried their inspiration back to the schools; 100 preachers have stood on the hills in awe of God's handiwork. Over 90,000 people have reveled on these velvet hills, this year, and with this inspirational feast they have combined the fact that 20,000 out-of-state cars have paid their commercial toll of gas and oil, of food and lodging, an estimated \$400,000 as White Sands contribution to the tourist business of New Mexico.

It is a long way from Bill Fetz and his six-up teams of longhorn cattle, to 90,000 annual visitors. We have arrived at a safe distance from the commercial. The public has decreed that there is something more to the White Sands than just gypsum. There is more to the picture than just the paint that is on it. There is beauty and thrill and inspiration and recreation; if there wasn't there wouldn't have been 90,000 visitors this year.

We have had a number of good sized parties this month, which may bring the contacts up a little though the total count is down. On October 10 the custodian addressed 300 women at the annual meeting of the State Federation of Woman's Clubs; on the 18th ten carloads, about 60 people came from the Soil Conservation Camp at Ysleta, Texas, and on the 19th 80 students from the Austin High School, El Paso, came up with a group of teachers. But the registration book shows 837, which on the basis of 14% registration, gives us 5,978 visitors for the month.

WUPATKI

By James W. Brewer, Ranger in Charge

500 USE OF MONUMENT FACILITIES BY THE PUBLIC

76 guests registered at Wupatki; 106 at the Citadel group; 27 names are duplicated, leaving a total of 155 visitors to this Monument in October 1936; 1935, 100; 1934, 141.

One party camped overnight in the first trailer to reach the Pueblo this year.

WUPATKI (CONT.)

530 NEWSWORTHY VISITORS

Ranger F. V. Leicht of Grand Canyon on the 30th.
Dr., Mrs. and Farrell Colton on the 4th.
Richard Van Valkenburgh of U.S.I.S. on the 14th.
Mr. and Mrs. Bert Lauzon, Ranger, Grand Canyon, on the 11th.

021 WEATHER

September and the first half of October were nice Indian summer days; on the 16th wintry skies began to appear and are still with us.

Days cloudy	7
Days part cloudy	2
Days sunny	21
Maximum temperature	86° on the 25th
Minimum temperature	38° on the 20th and 22nd
Precipitation	.034 inch
Anemometer	4769.8 miles, total for month
Maximum 24-hour reading	407.8 on October 16
Minimum 24-hour reading	42.3 on October 18.

200 MAINTENANCE, IMPROVEMENTS, NEW CONSTRUCTION

220 IMPROVEMENTS

The trail from the east wash to the new parking area is complete.

I borrowed Clyde, a team and scraper, and moved the pile of back-dirt over the ledge and graded it to make a ramp. Two drain pipes fitted with rock culverts are installed under the ramp. Leaving enough back-dirt on the ledge to encourage vegetation, I have leveled it off and transplanted what I hope will form a nucleus of typical flora: (Mormon tea, Rabbitt brush, Atriplex, Apache plume, thistle, Match bush, and grass.) I have been hauling water and watering these transplantations, each of which has been planted in a mixture of cinder, mold and the back-dirt. (The back-dirt alone does not seem to encourage plant life.)

The ramp itself has not yet thoroughly settled and will need occasional attention until usage and rain have packed it down.

On the 20th I hauled out a load of scaffolding lumber to be erected under the east wall of room 41 while the I beam is being installed. This work is being held up until some engineering advice arrives.

On the 13th Paul brought Mr. Eric Reed, Assistant Archeologist, to the Pueblo to trowel out room 7.

WUPATKI (CONT.)

220 IMPROVEMENTS (CONT.)

The artifacts being recovered are so badly mixed with fallen walls that a great deal of care must be given.

Already about one dozen restorable vessels have been taken out; also bone implements, an a nimal figure carrying a small bowl, a large stone pendant, a stone bowl, pestles, two metates, a dozen manos, and some shell ornaments. (Half the fill to the ground floor level has been excavated.)

230 NEW CONSTRUCTION

A cement lined catchment basin was constructed around Wupatki Spring. A weather tight cover was installed, also a diversion dike to prevent damage by surface water.

WATER ANALYSIS

Mr. Robert A. Green, Director of the Arizona State Laboratory, University of Arizona, gives the following chemical analysis of Wupatki Spring water: (9/21/36)

Parts per million;

Total soluble salts	1189 ppm
Calcium	80 ppm
Magnesium	65 ppm
Sodium	196 ppm
Chlorides	96 ppm
Sulphates	428 ppm
Carbonates	60 ppm
Bicarbonates	264 ppm

"This water is fairly hard and the amount of salts slightly exceeds the limit w hich we usually recommend for domestic water. I see no reason, however, why this water might not be used for domestic purposes, provided that it has satisfactory bacteriological qualifications. This water contains a good deal of gypsum which is calcium and magnesium." (We just sit around and listen to our arteries harden.)

320 COOPERATING GOVERNMENT AGENCIES

AERIAL SURVEY

On the Monument one quarter mile east of the Pueblo the Coast and Geodatic Survey has erected on aerial target and placed 3 brass buttons.

WUPATKI (CONT.)

AERIAL SURVEY (CONT.)

The "target" is a 5' square platform erected to a height of about 5 feet above the ground, with a flagpole centered above one of the brass markers.

Three triangulation parties have come to the target at night, and with automobile headlights mounted on the platform, have measured the distances between the targets. (One has also been placed on the east rim of Sunset Crater, another on the San Francisco Peaks and many others.

The measurements will be correlated to the aerial photographs. (Adding these three new brass buttons to those of the N.P.S., land office survey and bench marks, Wupatki should look like a hotel doorman.)

GENERAL

TRAFFIC RECORDER

On Highway 66 about 4 miles east of Flagstaff the highway department has installed a photo-electric cell "Traffic Recorder". This instrument projects a double beam of light across the highway at a 25° angle and when the beams are broken simultaneously by a passing car the instrument records the day, hour, and minute of the passing vehicle and also computes an hourly total.

At a 23° angle the beams are broken only once by a car and trailer. The two beams being 3 feet apart are not broken simultaneously by pedestrians.

Friday (16th) noon to Saturday noon 1,416 cars and trucks passed
Saturday noon to Sunday noon 1,350 cars and trucks passed.

The State highway engineer asks cooperation of National Park Service Rangers to see that the instruments are not molested.

(Clyde was with me when this recorder was explained by the engineer and after inspecting its inards and listening to it tick as a car passed, his only remark was: "White man, too much a loco").

SUNSET CRATER

By James W. Brewer, In Charge

The geological rim sign was installed on the 24th. A clean-up was made on the 25th. 287 visitors registered at Sunset Crater during the month of October, 1936; 1935, 165; 107 (18 days), 1934.

CHACO CANYON

By. T. C. Miller, Custodian

General

October has been a good month in the Chaco. Weather has been excellent for travel. It is one month in the year that is not too wet or too dry for the average visitor to make the drive from highway U. S. 66 into Chaco, then continue on north to Aztec and Mesa Verde, or State road 55 to Albuquerque.

On official trip was made to Headquarters by the Custodian during the month.

Weather Statistics

Maximum temperature, 81 on the 12th; minimum temperature, 26 on the 22nd. .71 inch of precipitation was recorded during the month. The first trace of snow fell September 27. The first killing frost was recorded September 29.

Travel

732 people entered the Monument in 202 automobiles, coming from 20 states and the District of Columbia; Foreign countries: Budapest, Hungary, and Paris, France.

National Park Service Officers

Engineer Clark and his three assistants arrived September 20 and departed October 3. While Mr. Clark's assignment was roads and bridges in Chaco, Associate Engineer Hamilton had two additional steel bars set in the Cliff and the Threatening Rock. These bars serve as gauges to determine any movement that might take place from time to time in the Threatening Rock. The first gauge of this kind was set by Mr. Clark November 2, 1935. Five months later I noticed that something had happened, but I could not believe that the rock had moved $\frac{1}{2}$ inch until Andy came back and made the check in person. Now that we have begun to wake up to the fact that this rock might fall on Bonito, I think that we had better get our Engineering Department to take that Rock down. I will watch those steel bars this winter and if the rock should move again even a fraction of an inch something should be done about it. John Keur has given that rock considerable time and thought, he could probably give us some close figures on the subject.

Charlie Steen, Junior Park Naturalist, arrived on the afternoon of the 10th and departed on the 11th.

Special Visitors

Dr. and Mrs. Edgar L. Hewett, Director School of American Research, and Dr. and Mrs. C. L. Lowman, Los Angeles, California, arrived September

CHACO CANYON (CONT.)

30 and departed October 1. Dr. and Mrs. W. W. Peter, Medical Director U. S. I. S. Navajo and Hopi areas were interested visitors on the 4th. Mr. G. M. Duckworth and Mr. Glen Myres from the Automobile Club of Southern California arrived on the 4th and departed on the 5th. Mr. E. G. Fine, lecturer and photographer, Boulder, Colorado, and Mr. Lloyd Case, Chamber of Commerce, Durango, Colorado, spent the day on the 12th photographing the ruins of Pueblo Bonito and Chetro Ketl. Mr. and Mrs. Poil Teleman, archaeologist from Budapest, Hungary arrived on the 14th and departed on the 15th.

Personnel

Homer F. Hastings, temporary Ranger-Historian, separated from the Service September 30. I surely have missed Homer during the month of October. He has finished a busy season and he certainly made the service many friends during his tenure as Ranger-Historian in this Monument. All we can say is "thanks Homer," and we surely hope we can get you back next season!

Activities of Other Agencies in the Monument

During the month of October the Soil Conservation Service have moved approximately 1000 yards of dirt that was placed on the Diversion Dikes near headquarters. Sixty yards of masonry wall was built near the ruins of Kin Kletsoi where they plan to bring the flood water into the Chaco Wash.

The School of American Research have been building what the Navajo's call "ya-be-chi Hogans", near their headquarters building. One hogan is complete and is being occupied by Mr. and Mrs. Paul Reiter. Two more hogans are about 40% complete; it is understood that Mr. Vivian and family will move into the next one completed.

The following Technical papers were donated for permanent use for the personnel of this Monument, by the School of American Research. This is a valuable collection and we greatly appreciate the contribution.

- No. 17 Educational Addresses of Dr. Frank Springer.
- 21 Two Addresses on The Life of Frank Springer, Edgar L. Hewett
- 22 Official Acts and Administrative Reports of the School of American Research
- 24 Twenty-five Years of Achievement, Paul A. F. Walter
- 25 The Sciences of Man in The Program of Research, Edgar L. Hewett
Director's Statement for 1928-1929-1930
The Third Season's Work in Guatemala, Edgar L. Hewett
Archeology of Rio Grande Valley, Edgar L. Hewett
Annual Reports for the School of American Research in Santa Fe for 1931-1934-1935.

CHACO CANYON (CONT.)

- 32 Architecture of The Exposition, Edgar L. Hewett and Wm. T. Johnson
- 34 The Proposed "National Park of the Cliff Cities", Edgar L. Hewett
- 42 An Address Delivered by Hon. Frank Springer at Dedication of New Museum Building, Santa Fe

PAPERS OF THE SCHOOL OF AMERICAN RESEARCH -- New Series

- 2 The Southwest: Yesterday and Tomorrow, Edgar L. Hewett
- 3 Catalog of the Borrowdale Collection
- 5 "Tonita of the Holy Faith", Maude McFie Bloom
- 6 Organic Acts and Administrative Reports of the School of American Archeology
- 7 Early Bridges in New Mexico, Lansing B. Bloom
- 8 A Proposed Indian Theater in Santa Fe, Edgar L. Hewett
- 9 Letters on the Pueblo Indian Situation, Edgar L. Hewett
- 10 Present Condition of the Pueblo Indians, Edgar L. Hewett
- 11 Pecos Explorations in 1924, A. V. Kidder
- 12 A new Process for Photographing The Interior of Indian Pottery Bowls, Wesley Bradfield
- 13 The Fiesta Book
- 14 The Excavations in Pecos in 1925, A. V. Kidder
- 16 Early Pecos Ruins on the Forked Lightning Ranch

PAPERS OF THE SCHOOL OF AMERICAN ARCHEOLOGY

No.	Title	Author
1	The Groundwork of American Archeology	Edgar L. Hewett
2	The Excavation of the Cannonball Ruins in South-western Colorado	Sylvanus G. Morley
3	The Pajaritan Culture	Edgar L. Hewett
5	The Excavations at Tyuonyi, New Mexico, in 1908	Edgar L. Hewett
7	The South House at Puye, New Mexico	Sylvanus G. Morley
10	The Excavations at El Rito de Los Frijoles in 1909	Edgar L. Hewett
11	The Correlation of Maya and Christian Chronology	Sylvanus G. Morley
12	On Phonetic and Lexic Resemblances Between Kiowan and Tanoan	John P. Harrington
13	Documentary History of the Rio Grande Pueblos of New Mexico	Adolph F. Bandelier
14	An Introductory Paper on the Tiwa Language of Taos New Mexico	John P. Harrington
15	Explorations in Southwestern Utah in 1908	Alfred V. Kidder
16	Antiquities of Central and Southwestern Missouri	Gerard Fowke
17	A Brief Description of the Tewa Language	John P. Harrington
20	A Key to the Navajo Orthography Employed by the Franciscan Fathers	
	The Numerals "Two" and "Three" in Certain Indian Languages of the Southwest	John P. Harrington
31	The Santa Fe of the Future	Wm. T. Johnson

WALNUT CANYON

By Paul Beaubien, Ranger in Charge

This month 758 visitors registered at Walnut Canyon, of which 577 are listed as educational contacts. There were several hundred others in the vicinity to harvest the first piñon crop in 11 years.

One fire was started by the nut pickers, but it was under control by the time I arrived.

Park Service visitors were H. B. Chase, A. C. Kuehl, Charles Steen, Milton Wetherill, and T. C. Miller with Mrs. Miller and Joe. Mr. Kuehl registered the 13th while I was taking Eric Reed to Wupatki, and Mr. Miller arrived the 18th while I was taking an airplane ride over Grand Canyon for six well spent dollars. "Hub" Chase came through one evening after I had gone to town for mail, so I missed him also. Altogether, my batting average with Park Service visitors was rather low this month.

Lyndon Hargrave of the Museum of Northern Arizona spent the nights of the 17th and 18th with me. He banded 54 birds on the 18th besides accompanying me on the Grand Canyon trip. About 50 pine siskins were released that day without bands as we did not have the right size.

In total, 109 birds were banded this month: 38 Pine Siskins, 24 Chestnut-backed Bluebirds, 17 Crossbills, 6 Western Chipping Sparrows, 12 Pygmy Nuthatches, 4 Red-naped Sapsuckers, 3 Western Robins, 2 Rocky Mountain Evening Grosbeaks, 1 Gambel Sparrow, 1 Red-shafted Flicker, and 1 Red-backed Junco. "Lyn" Hargrave believes the Evening Grosbeaks to be the first ones banded in Arizona. To date, nine "returns" have been reported to the Bureau of Biological Survey.

A few stormy days rendered the water trap useless much of the time as the birds do not flock to the trap when small puddles of water are near. Also, bad weather has a decided effect on the visitor count.

Have just received word that the new road signs from Bandelier are awaiting me in town. I suspect there will be many more visitors next summer because of them.

CHIRICAHUA

By Frank L. Fish, Custodian

Dry conditions have prevailed during the month without any storms. Nights have been cool with no killing frosts up to the present date on the monument. To the south of us at an elevation of 9,000 feet the aspens have changed color, indicating frost at that elevation.

Rain is falling at the present writing (Oct. 24) which will probably result in colder weather in the near future.

CHIRICAHUA (CONT.)

Roads

Approach roads have been badly corrugated due to lack of moisture and grading.

Visitors

Our October registration shows a gain of over 100% in visitors over that of last October, 690 arriving in 158 cars as against 325 in 80 cars last October. 63 were new enrollees who were taken on a sight-seeing trip. Approximately 50 others can be considered extra as the Copper Register gift referred to in last month's report was made on September 27 and counted as part of this month's registration. 213 or 30% of the visitors were from out of the state.

Park Service Officials

Clinton Rose, Charles Richey and J. H. Tovrea looked over our trails, camp grounds and buildings.

Hugh Miller and Mr. Strieby were here on ECW work, while they were busy it was my pleasure to educate the wives along with Mrs. Yeager in horseback riding a la Chiricahua.

Dr. De Leon and Ward Yeager did some bug hunting. Ward also classified some of the trees of this region.

Adrey and Mrs. Borell intended staying with us a while, but a telegram rushed them away before we could hardly renew old acquaintances. In fact Adrey left his hat here in his rush.

Lyle and Mrs. Bennett were in looking over buildings and these people who live around the Pueblos brought a rain with them.

Newsworthy Visitors

John Ball, photographer, Bisbee, Arizona; A. H. Gardner, Secretary of the Chamber of Commerce, Douglas, Arizona; Grace Sparks, Secretary of the Yavapai Chamber of Commerce, Prescott, Arizona.

Father Victor Stoner, District Chaplain, Tucson, Arizona. Father Stoner agrees with Mr. Pinkley on the Tumacacori Mission Museum. Incidentally he is considered an authority on the Kino Chain of Missions.

Cooperation with Other Agencies

Two lantern slide talks were given to the enrollees at the CCC Camp, total attendance 220.

CHIRICAHUA (CONT.)

The Custodian is continuing a course in practical Forestry with 24 enrolled. Part of this shall be a course on future fires next summer.

Fauna and Flora

Deer season opened October 16. So far there has not been any violations known within the Monument. Many shots have been heard outside the area. Two parties have been warned about shooting near the boundaries. This is a difficult situation as the Monument has not been marked as yet.

Ed and Mrs. Knagge reported a small lion track in the trail at Echo Point on the 18th.

A black tail rattler was captured the 22nd and will be shipped to Dr. Blanchard.

General

A talk was made by the Custodian to the new enrollees warning them about defacing or destroying the natural features of the monument. The ideals and origin of the Park Service was explained also.

The power saw was received and operated during the month resulting in a nice supply of sawed wood, mainly oak, for use this winter.

Accumulation of refuse in the borrow pit was burned; Humus was hauled and placed around the recently planted trees in the road obliteration area.

With the help of new enrollees a general clean-up was carried out along the roads and old camp sites, the usual maintenance clean-up was carried on during the month.

CHIRICAHUA ECW By Wm. Stevenson, Project Superintendent

The large rock slide which occurred early in September on the Massai Point Road has been mostly cleared away. There remains yet about 200 yards of overhanging rock and dirt to be removed to give a proper slope. A total of about 1,500 yards has been removed to date.

Considerable maintenance has been necessary on the Bonita Highway this month. This consisted mainly in opening up ditches and culverts. Some resurfacing has been done also.

The Echo Point-Rhyolite Trail is nearly complete. 2,000 feet have been constructed this month. This trail has been open to horseback parties for several weeks.

CHIRICAHUA ECW (CONT.)

Due to shortage of men during the past three weeks, no trail maintenance has been carried on this month. The work will be resumed as soon as the new men are available.

Headquarters Ranger Station is about 70% complete. The work on this building has been somewhat slowed up this month due to the loss of several key men. During the past week a few of the new men were available for this job so the work is now moving along very well again.

The equipment shed walls are about 50% complete. Window frames are in place; also most of the framing of large timbers has been done. There is still some rock to be selected for window sill finish and some for top finish around rafters.

The Headquarters and Echo parking spaces have been staked out and construction will start as soon as possible.

TUMACACORI

By Louis R. Caywood, Custodian

So much has happened during the past month that the time has slipped by unnoticed. Although the visitor record is not high for the month, it may be that it is the lull before the storm or the breathing spell before the winter rush begins. Seven hundred and forty-three visitors were contacted by guided trips through the Mission while 65 others used the facilities making a total of 808.

Although other parts of Arizona have reported rain and even snow, neither has fallen here. With the exception of two days of severe wind the month has been delightful. The mornings are now a little nippy and there is a tang of autumn in the air.

The proposed museum and administration building has been the cause for quite a number of official visitors. On October 1st Charles Richey, Clinton Rose and J. H. Tovrea were here on their way from Chiricahua to Headquarters. Unfortunately, the custodian was in Tucson that day obtaining wage rates for various building crafts and missed the party.

On October 16, the Boss, Nancy Margaret, and Tovrea from Headquarters accompanied three of the Park Service architects here for a first hand discussion on mission architecture. Scofield DeLong, San Francisco, and Richard Sutton and A. L. Skidmore, both of Washington, D. C., spent considerable time studying the architecture of Tumacacori. We certainly enjoyed their visit and discussion, but really could have done without the sample of a good old Coolidge dust storm which they accompanied here. The Boss and Nancy returned to Headquarters while Tov and the architects made a flying trip into Mexico to see other missions. On their return on the

TUMACACORI (CONT.)

19th they stopped in long enough to report that they had visited Cocospera, San Ignacio and Oquitoa.

October also brought us Charlie Steen from Headquarters who was accompanying his sister and her family on a short tour of Southern Arizona and Luis Gastellum who dropped in one Sunday morning to say hello.

Fred Winn, Supervisor, Coronado National Forest and party of Forest Service Officials were mission visitors on October 1.

The Custodian and H. C. W. P. visited Headquarters on October 12 and 13 where a discussion was held over the proposed Tumacacori Museum plans. This was our first visit to Coolidge since coming to Tumacacori and we certainly enjoyed seeing the gang again.

Work has gone ahead on the grounds this month until they begin to look presentable after the final removal of a blanket of weeds.

EL MORRO

By Evon Z. Vogt, Jr., Acting Ranger

Weather and Roads

On September 27 a heavy snowstorm caught this ranger without firewood, having used a gasoline stove all summer, and with only enough bed covers for balmy weather. While snow fell fast and furiously all day, I chopped up old fence posts for wood, painted signs indoors, and recorded the first Sunday this season without a visitor.

Snow fell again on October 6, and heavy rains soaked the Monument on October 19 and 20. Between storms, however, we have had the usual beautiful autumn weather.

As November the 3rd draws nearer, road work in this part of the state progresses rapidly. Believe it or not, a tractor and grader have actually passed in front of historic El Morro. During the past seven centuries pre-historic Indians on foot, Spanish conquistadores on horseback, American emigrants in covered wagons, tourists in automobiles, and transcontinental passengers in airplanes have all passed El Morro, but this is the first time in history that a tractor and grader have chugged across the valley from the Zuni Mountains and noisily graded along the Monument boundary and on beyond. El Morro's time-honored tradition has been broken, for it is no longer as inaccessible as it was in Coronado's time!

The grade is thirty feet wide, follows a good straight route, and is twelve miles long, leading from El Morro east to Swatzell's Ranch.

EL MORRO (CONT.)

From there to Paxton Springs the road has been graded by the lumber camp outfit. The Grants approach road is now in much better shape than the Gallup road.

Travel

From the standpoint of travel the month has been slow and uneventful. Visitors number 169. Only newsworthy visitors were Robert R. Budlong, that tall lanky cliff-dweller from Canyon de Chelly, and Mrs. Budlong.

I think the reason that Bud squawks so much about de Chelly being the finest National Monument in the Southwest is that he hasn't seen any of the other monuments. After his visit to El Morro, he will think three times before making any more rash statements!

Flora and Fauna

October is by far the most beautiful month of the year at El Morro. Jack Frost turns the oaks to a deep yellow and later to a rusty orange. The mountain sumac bushes are colored a flaming red. These gorgeous colors stand out against the buff-colored rock and dark green pines. Above all is the deep blue New Mexican sky with its white billowy clouds. All this presents a vivid scene which is not soon forgotten.

But already the winter winds have stripped the oaks of their lovely leaves, and pack rats are hurrying to fill their nest with piñons before the first big snowstorms cover El Morro.

The following birds were observed at El Morro during October

Golden Eagle	Pinyon Jay
Western Crow	Woodhouse Jay
White-throated Swift	Mountain Bluebird
Cooper Hawk	Chestnut-backed Bluebird
Red-shafted Flicker	Pigmy Nuthatch
Lewis Woodpecker	Canyon Wren
White-breasted Woodpecker	Arkansas Goldfinch
Western Meadowlark	Belted Kingfisher

The belted Kingfisher is a newcomer to the list. He was spotted flying around the water hole in the Rincon. I'll bet he had his eye on the big juicy salamanders in the pool.

General

Two signs warning visitors that "the engraving of names on the rock is strictly forbidden by law" were repainted.

The roof of the ranger's cabin was painted with tar.

Three loads of oak and cedar wood were ordered for fuel for the permanent custodian this winter.

Old Rafael (Navajo) and family were gathering the piñons on top of the mesa southwest of the south ruin where the crop is exceptionally heavy. They are being careful not to damage the monument fence or injure the trees in any way.

GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for October, 159.

On September 27, it started to rain but during the night it turned to snow and the morning of the 28th showed about a foot on the level and many drifts.

Except for a few who had cut their corn and beans early, those crops are a total failure as there is no market for discolored beans and of course the corn was frozen.

There was unusually heavy traffic on our roads following the snow and the roads were so badly cut up that the few tourists who ventured over them found them very bad and this of course has cut down visitors for this month considerably.

As is the custom each year, several hundred transients from southern states arrived to help harvest the bean crop, just before the snow. The general verdict was that they did not know there was any place in the United States that ever got as cold as that, and every one left the following morning.

Two nights a week we are using the film projector down in the community building. The District health nurse has agreed to come down from Albuquerque every Tuesday; during the afternoon she will conduct classes in nursing and in the evening we will project the films which will be a part of the nursing course.

Another night each week will be given over to films of the National Parks, Monuments, National Forests and all those subjects the average person should be interested in.

A few of the Evening Grosbeaks stayed with us all summer but the majority went farther north, but now they are returning in great flocks, along with thousands of Robins and Bluebirds. It keeps one busy filling up the drinking water containers.

Have cut off the water and drained those sections of the pipe lines

not in use in the winter time and have made the more exposed portions safe from winter freezing.

The Boss, Nancy Margaret and Mr. Steen called on us September 25 and we were most pleased to see them again. Captain Berrywell in charge of the CCC camps, Miss E. M. Smith, head of the State Health Work, and Miss Lassoff, State Health Nurse, were also among the visitors this month.

CAPULIN MT.

By Homer J. Farr, Custodian

We have had about four hundred visitors during the month and for some reason I have noticed an extremely large number on top of the volcano at night; almost every night I see cars coming and going during late hours at night. As one party explained it, they get a great thrill making this drive at night.

Our weatherman has dished us out an extremely cold and damp October so far, with three snows and snowing again today, with the top of the merc showing around 25.

A rather remarkable statement to make is the fact that over two hundred fifty thousand automobiles have traveled the Capulin Mountain Road without accident of any kind. If records were obtainable I sincerely doubt that any other three mile stretch of mountain road could boast of a better record. Now knocking on wood is in order, and I hope we will be able to continue as fortunate as in the past.

No guided trips were made this month.

PIPE SPRING

By Leonard Heaton, Acting Custodian

Hello, to all you Southwestern bunch; I am back on the job after a month's leave and glad to get into the straps again. I have been kind of lost without the monument and the spirit of the Southwestern Monuments. I have had a great time while away from work; done most all the trades of a Westerner, riding, farming, carpentering, masonry, maildriver, and a lot of other jobs that I have not done for a long time.

Since I have not been at the monument to do any work, I will have to let Mr. L. J. Brown tell you how the Monument has progressed this past month. From the travel record he has been rather busy. On October 18 the Lions of Southern Utah came out and I came down for four hours to help with the beasts to see that they did not frighten all the other visitors away. But we had a great time as it was.

PIPE SPRING (CONT.)

I find that I have several days' work ahead of me and letter-writing which I do not care very much for, besides the laying out work for the CCC boys that are working on the Monument. It seems that the boys want to do those things that we are not ready to do as yet, and the projects that have not been approved. But I guess in time we will get them to working on things they like, if any.

The first Gamble Sparrow that I saw this fall was at Moccasin, four miles north of the Monument, on October 5. On the 6th I saw quite a flock and they have been passing or feeding in this part ever since.

Will start my bird banding as soon as I can get caught up on my work and have a little time to spare. Mr. Brown reported that he heard some Gamble Quail here on the 22nd of this month. These are the first that I know of being reported here for over two years, and I guess they will not stay long if the CCC boys find it out for they are always out hunting with their 22's.

Weather has turned cold. We had two days' snow in the mountains and a lot of rain on October 19 and 20, the most we have had since last winter.

By L. J. Brown

The travel through Pipe Spring National Monument has been getting less and less during the months of September and October, being confined chiefly to Western people. However, most of those have displayed a genuine interest in the buildings and surroundings. I find that the visitors from Eastern parts appreciate the old relics and furniture most, while those from the West like the buildings. Some, of course, have been bigger and better, and, incidently, more modern sights recently but they are in the minority and most feel well repaid for their efforts.

The road between Fredonia and the Monument is very rough and "wash-boardy" with ruts developing rapidly. Possibly, though, the Division of Grazing will attend to it as soon as we have some rain. The Indian Service is without proper equipment at the present time.

About 66% of the boys from the CCC Camp here went home at the expiration of their enlistment period late in September and a new group of 102 arrived in camp, October 11. Twelve of these new boys have been up to look over the Monument and I expect most of the rest of them will pay a visit on Saturday and Sunday.

The wild life on the Monument is increasing and is comparatively tame. The gamble sparrow is still with us and there are several little Rock Wrens around. Also some small birds that I could not identify stopped at the water hole for a drink as they went south. The rabbits, both cottontail and jack, are quite numerous but the big hawks have started to come down out of the hills and mountains, so I suspect some of the bunnies will disappear.

BANDELIER

By J. W. Hendron, Acting Custodian

Visitors

Our total travel for this month numbered 728 people, however, small compared with last month's figures we ran ahead of the total for October, 1935, which was 659. Visitors arrived in 231 cars from 29 states and District of Columbia.

The six highest states in order by visitor count were: New Mexico, 243; California, 74; Colorado, 36; Texas, 36; Illinois, 29; and New York, 24.

Twenty-two people visited us from foreign countries including England, France, Canada, Argentina, Hungary, also Hawaii and Africa.

Return visitors numbered 140

Weather and Roads

Days partly cloudy-----	12
Days cloudy-----	6
Maximum temperature-----	70 September 25
Minimum Temperature-----	32 October 7
Mean maximum-----	58.5
Mean minimum-----	41
Precipitation-----	1.69 against 1.65 for October, 1935.
Rain and Sleet-----	Sept. 27, 28, October 19, 20, 22.
Dust storms-----	None

I might say that on the whole the roads leading into Bandelier have been exceptionally good this month. On several occasions they have been a little muddy and rough, due to sporadic showers and a little snow. New Mexico is now producing its regular trend in fluctuating weather conditions that always precede mid-winter; first the sun shines for a week and then it turns cold and is cloudy for several days and then it turns warm again for a spell which ordinarily means that old man Winter is just teasing us before the grand slam.

Visitor Trip Chart

Eighty-seven parties took guided trips through the ruins, making a total of 349 people. The average time per party was 65 minutes. Five parties were given short talks or partial ruins trips, the average time being 38 minutes per party.

Most of our visitors this month have visited Bandelier because they were interested in the ruins. Very few have come only as picnickers and as a result we have had very little use of our camp ground, with the

BANDELIER (CONT.)

exception of a few occasions. Several parties have expressed a desire to visit the lower canyon to see the falls and the geologic outcrops. We contacted four people who made that trip this month, which proves that some day we may be able to conduct an occasional trip to that part of Bandelier.

Our largest parties number 10, on October 11 and 18th.

Special Visitors

September 23 - The Boss dropped in for a short stay with Nancy Margaret and Charlie Steen.

October 8 - Mr. and Mrs. Pal Keleman of Bucharest, Austria, were in for a trip around the ruins. Mr. Keleman is well known as a writer. He has recently been to Mexico gathering material for a new book and at the present time is visiting the interesting places of the Southwest. Being so impressed with the architecture at Bandelier, Mr. Keleman plans to return and spend considerable time here studying our different sites including those in the Detached Section.

October 14 - Jack Diehl and J. B. Hamilton were out on business.

October 23 - Addison Pinkley and Carl Schmidt, engineers, came in this afternoon to work on the new entrance road. They will be here for a week or so.

General -

As the hunting season draws near hunters are making camp on many of the roads outside the Monument and particularly over near Water Canyon. Game seems to be plentiful this year around here; a few days ago I saw 10 turkeys just this side of the Ceremonial Cave and George Sholly saw 30 deer on the South Mesa, which we recently posted so woe unto those who hunt on the Monument and get caught. Turkey tracks have been seen everywhere in the Detached Section, but no turkeys.

Museum Notes

And now, Boss, I wish to make an account of the Museum work that we are doing and the work that we have completed to date.

Perhaps we took our sweet time in completing the trash mound but I think that we have done a good job on it. All of the pottery is arranged in chronological order and we have a good display of it too. We have every type of pottery, or I might say, the most general types of pottery found in this part of the country. We are showing only two periods, Pueblo 3 and 4 which takes in the occupation of Bandelier, and these periods are divided in such a manner that they will be easily distinguishable by the visitor.

BANDELIER (CONT.)

The background for this case is not complete and we are waiting for the maps and necessary labels from the Berkeley office.

Due to misfortune we were forced to rework the Pottery family tree which has held us up to some extent but now that is completed with the exception of gathering a few additional pottery types and photographs.

We are undertaking something now which may slow us up a bit but I think it will prove best in the long run. We are preparing a drawing of the ground plan of the big community house which will show the levels of the different storied rooms, the 1st, 2nd, and 3rd stories to be represented by different types of shading. When we finish the ground plan we will start on a reconstruction drawing, showing how Tyuonyi looked at the time when the Indians occupied it. A better model can be made if we know how it is to look when it is completed. This will be a view looking from about 30 feet high and to the side of the structure showing how both the outside and inside rooms looked. A considerable amount of time and study has been spent in figuring this out and I don't think it will be in vain, for this will be one of the most interesting exhibits in the entire museum.

Borings and V-cuts have been made from around the surrounding country for the tree-ring case. We may need additional specimens but these will be a starter. We also have a number of cross-sections which have been polished down. This case can be put into shape after all the labels and photographs are completed.

From the looks of things, Boss, the Bandelier Museum is making progress, and I am confident that we will have something very interesting to show the visitors during the next travel season.

BANDELIER ECW

By H. B. Chase, Project Superintendent

Signs for other Southwestern Monuments were completed for Walnut Canyon and Aztec Ruins National Monument, and shipment made about the 15th of October. Signs for the Chiricahua National Monument are now in the process of making.

Receipt of approved plans for Quarters No. 3 enabled us to proceed with construction with a double shift and now the building is to lintel height.

The three root cellars for the three Quarters in the Residential Area have been completed and the built-in shelves installed in the two for Quarters one and two. The finishing of the third root cellar interior is in progress at this time.

BANDELIER ECW (CONT.)

The equipment shed project was completed and the two living quarters are now being occupied by two of the Supervisory personnel at this camp.

Two large crews are now doing preparatory work of transplanting trees and shrubs. Some small planting has been carried out this month. It is anticipated using two crane truck pieces of equipment this planting season instead of only one as in the past two seasons.

The clearing of a new road right-of-way by the Forest Service on lands adjacent to the Monument has enabled us to secure considerable aspen material for ceilings and pine timber for vigas and lintels. This operation has been carried on at intervals throughout this month, storing the materials for future building projects planned for the 3th period, while it is available on an economic haul.

A large number of new enrollees received this month were assigned to the Rock Quarry Project, quarrying and shaping rocks and stones for our building program.

The recent contracting and delivering of a large order of finished lumber will allow the carpenter crew to proceed with the installation of museum cases under our furniture project. It is anticipated this installation will be completed during the winter months.

A small crew of enrollees have been working under the direction of Acting Custodian Hendron constructing and preparing exhibits for the museum.

BANDELIER FORESTRY ***** By James T. Fulton, Forestry Foreman

After having completed the painting of the equipment shed by October 9, I began using the crew to hew 210' of lintels and to cut 17 vigas for Quarters No. 3, or Project No. 31. This material was obtained from our stock of timber cut several months ago.

For the week of October 19 - 23, I had a crew of about 30 men engaged in cutting aspen poles on Sawyers Mesa. In time these poles will be worked up into ceiling material. The work required to do this is peeling and splitting. All of these aspen poles were salvaged from snow-damaged aspen stands on top of Sawyers Mesa, along the new road being constructed in that vicinity.

This month there has been no particular reason for having forest fires. However, hunting season will begin on October 25 and continue until November 15; at this time we will be on the alert for man-caused fires; such fires during hunting season have occurred in the past years, but we hope that nothing like that will happen here this year.

NATURAL BRIDGES

By Zeke Johnson, Custodian

I came in from the Monument on the 18th and expected to go back the next day, but it has rained every day since. However, it looks clear this morning and I will go back this afternoon. I expected to make another trip before I sent in my monthly report. As a result of this anticipation, I left my report slips at the camp and won't be back again until time to vote, so can't make report in full. However, there have been a lot of visitors out there this month and I have been able to contact all of them. For the most part, weather has been ideal.

There are about 100 deer hunters on Elk Mountain now. After the shooting has been going on for three or four days, hundreds of the does and fawns come down in herds of sometimes 40 or 50 and hide on the cedar points close to the monument. Sometimes some of the hunters that have failed in getting his buck will come down and try to find one and if they fail they will kill anything; accordingly, I am determined they won't do any killing this year near the monument. I will stay right on the job until season is over. I have a horse and plenty of hay out there so I can ride out and scout around all that is necessary. Four mountain sheep were in Armstrong Canyon when I left, and wouldn't one of those lazy buck hunters be thrilled to get a shot at them? I only saw them once but they were very tame. In view of this fact, I am determined that no one will get near the monument with a gun.

HEADQUARTERS STUFF DIV. OF EDUCATION

Park Naturalist Rose was stationed at Berkeley during the entire month of October; he continued his investigations of mission records in the Bancroft Library and assisted Ansel Hall in the preparation of museum exhibits for Aztec and Bandelier National Monuments. Junior Naturalist Steen was in the field during the first part of the month making a tentative museum plan for Aztec Ruins; he returned to headquarters on the 13th where he spent the remainder of the month. The vacancy made by the absence of Junior Naturalist King has not yet been filled.

Gifts and Accessions

A number of books and reports were received for the library during the past month. These are listed in the Supplement for this report and additional copies of the list will be made for inclusion in the loose-leaf information binders.

Bird Banding

Walnut Canyon and Casa Grande were the only two monuments to report new banded birds for October. All birds banded during the period July 1

NATURALIST DIVISION (CONT.)

to November 1 are included in the list.

Paul Beaubien has trapped eleven returns to date, but the Casa Grande banding station just barely got under the wire with a single return, a Bendire Thrasher, banded on October 12, 1935, was caught again on October 28. Many Gambel Sparrows are on the Monument but they have refused all profered baits. It is very annoying, to put it mildly, to see a number of freshly arrived birds hopping all around a trap but refusing to enter, particularly when several of them are sporting some nice aluminium bands.

Analysis of Casa Grande Visitor Figures

A resume of a year's visitors at Casa Grande proves to be quite interesting. We had 27,704 visitors covered by this study and with them we obtained 43,218 personnel visitor contacts, which is 155% out of a possible 200%; not bad, but it could have been better.

Notice that the attendance fluctuates. The low point falls in July, as one might expect because of the heat which drives the transcontinental traffic farther north to the higher and cooler roads. The attendance goes up in August, up again in September, and rises again in October. There is a fall so slight as not to matter in November and December and then a sharp rise in January. This is caused by the winter visitors to Arizona who have waited until after the Christmas holidays to come West. February drops a little, probably due to the shorter month. March shows a decided drop with a heavy comeback to the peak month of the year in April. May and June hold up well with a sharp drop to July.

There were 3,707 guided trips through the ruins averaging 33 minutes per trip. 25,936 visitors took these trips averaging just under seven persons to the party. The minimum load was in July with 232 parties and the maximum load fell in February with 384 parties, although April ran a close second with 378 parties.

Peak load months use the longest trip time on field trips at Casa Grande. February and April are the heaviest months and the trip time is 38 minutes; July, the lightest month shows a trip time of 29.7. In September, when trips, attendance, and total time used are all on the increase, we fall down to 27.8 minutes for the trip time. For October, 1936, the month just closed as I write this, our number of trips remains stationary, visitors and total time increase, number in party increases and the trip time goes up nearly two minutes but is only 29.4 as against 37 last year. Does this mean that the visitor is not staying so long as last year, or is our service falling off, or is there some unknown factor at work?

We gave 2,430 museum trips to a total of 17,182 visitors, the average trip being a trifle over 21 minutes. The variation in the museum trip time was from 19.7 to 25 minutes. It is to be noted that we do not get the

CASA GRANDE VISITORS FIGURES

	No. Employ		Guided Trips				Museum Lectures				Museum		Outside		Total		Total Percent Contacts
	Perm	Ten	No.	Att.	Time	Av. Att. Tm	No.	Att.	Time	Av. Att Time	Unatt.	Lecture	Total Contact Educational	Travel			
October '35	2	--	285	2281	10545	8	37	94	800	1880	8.5	20	1481		3081	2,281	135
November	2	--	309	2165	10815	7	35	100	800	2100	8.0	21	1365		2965	2,165	136
December	2	--	243	1390	7681	5.7	32	60	342	1200	5.7	20	1793		1732	2,135	81.1
January '36	2	1	337	2938	12336	8.7	36	223	1869	4394	8.4	19.7	1069		4807	3,370	142
February	2	1	384	3043	14497	7.9	38	256	2332	5330	9.021.		711	100	5475	3,043	179
March	2	1	351	2705	12109	7.7	35	248	2016	4783	8.219.2		689		4721	2,705	174
April	2	-	378	3251	13294	8.6	38	242	2163	5290	8.922		1088		5414	3,436	157
May	2	-	301	1867	8971	6.2	30	194	1099	3829	5.720		768		2966	2,234	133
June	2	-	291	1650	8324	5.7	28	266	1405	5421	5.320		245		3055	1,661	183
July	1	1	232	1133	6911	4.8	29.7	203	1058	5103	5.225		20		2191	1,142	191
August	1	1	270	1468	8558	5.4	31.7	239	1483	5959	6.224.9		--		2951	1,487	198
September	2	-	326	2045	9117	6.2	27.8	305	1815	6164	5.920.0				3860	2,045	188
TOTAL			3707	25936	123158	6.9	33.2243	17182	51453	7.021.1					43218	27,704	155
Average			308	2161	1026	7.0	33.3202	1432	4287	7.021.2							
OCTOBER, 1936			323	2190	9513	6.7	29.4288	1865	6436	6.422.3					4055	2,190	185

NATURALIST DIVISION (CONT.)

maximum trip time falling on the maximum visitor load in the museum as we do in the trip through the ruins. The talks in the museum are longest in the dull months. The possible solution is that the dull months are the hottest months and the visitor does not want to walk around the ruins in the 110 degree weather, but is willing to loaf in the comparative coolness of the museum where the fans are running.

It will be noticed that while the museum talks held up in length to a reasonable maximum and minimum, the museum attendance fluctuated widely, from a minimum of 342 in December to a maximum of 2,332 in February. The real explanation of this lies over to the right in the "Museum Unattended" column. For several months large numbers of visitors were turned into the museum by the guide upon his return from the ruins and allowed to wander at will without guidance. We checked the time on a lot of these parties and the average stay in the museum was about 13 minutes. The average stay of 3,200 guided museum parties was 21.2 minutes. There is no question in my mind but that the visitor receives a much deeper impression from a 21 minute guided talk where things are explained to him in their proper sequence than he can possibly get from wandering at will for thirteen minutes and we have now established the definite policy of guiding all parties, so far as it is possible, through our museums.

The total trip time, which is the time taken for the ruins trip plus the museum trip varies during the year from 48 to 60 minutes with a yearly average of 54.5 minutes. The longest trips were given in April, the month of maximum number of visitors and the next longest were in February, which had the next largest number of visitors. I am not certain of the explanation for this but suspect that in the peak months we have a considerable number of heavy parties which ask so many extra questions and move so slowly from room to room during the trip as to bring the trip time up. An examination of the tickets for the thirty longest trips in the heavy months and comparison with the same number of the longest trips in the slack months might disclose whether or not this is a correct guess.

We asked Custodian Winter what he thought about this tabular matter, and he responded as follows:

"This chart hands out some interesting and valuable information. I notice it shows that there was an average of ten trips a day made through the ruins for the past year. This means ten trips every day, and each trip averaged 33 minutes.

"I wonder where, outside the Southwestern Monuments, would we find as many as ten half hour lectures being delivered daily with neither admission charge nor tips being collected? Then in addition we find that there was an average of seven museum trips conducted daily, lasting 21 minutes each. Seven out of our ten ruins lectures, therefore, were followed by a museum talk.

NATURALIST DIVISION (CONT.)

"These figures, of course, are averages, so there were many days on which there were more than ten lectures delivered. I am not writing this to pat ourselves on the back, but to emphasize our ever present need of more personnel. It may be noted from the chart that for three-fourths of the year there were only two men on the job to do all this lecturing, in addition to their other duties. Does it occur to the people who read this just how many things a Custodian and a Ranger can find to do beside guiding? True, we guide more than we do anything else, but it is not from choice alone. While we are spending so much time in public contact work there are many things about the Monument that are left undone or which have to be done hastily and in a half-way manner. For example, clean-up work is needed -- picking up scrap paper along our half mile entrance road, perhaps. Another, shooting is heard not far from my office. Is someone hunting our quail? I don't know, we haven't time to go find out for I am busy taking visitors through the ruins and the Ranger is down pumping out our defective sewer system. But the ten trips a day must be made, for there are visitors here to take them.

"I suppose that something more than just a gripe should be written in connection with the attached chart. Lately, however, I have had brought to my attention most forcibly the need for another guide here, so when I see figures bringing out the amount of guide service rendered I naturally think most of how to maintain that high standard of service and at the same time adequately attend to the manifold other necessary duties.

"As it is now, I have been two days writing these few comments and the only way in which I can write more will be to look the visitors out at the front gate. This can't be done so I guess I will sign off and go on another trip to the ruins."

Analysis of Aztec National Monument Visitor Statistics

We are filing herewith a tabular report on visitor statistics for Aztec Ruins National Monument covering one full year of operations.

Aztec has a pretty attendance curve; January is the low month with 225 visitors, the curve rising regularly through the months to a peak in August with 2,658 visitors and then falling rather sharply to the beginning. We had 12,984 visitors reported and obtained 23,853 personnel visitor contacts. Note that the personnel visitor contacts followed pretty much the same curve as the total travel curve, indicating that the boys did not fall down in the delivery of service. The percentage of personnel visitor contacts was 183% on a basis of 200% as perfection.

AZTEC RUINS VISITORS FIGURES

	GUIDED TRIPS				MUSEUM LECTURES				Total Educational Contacts	Total Travel	Percent Contacts
	No.	Att'd.	Time	Av. Att'd. Time	No.	Att'd.	Time	Av. Att'd. Time			
October	125	1155	3750	9.2 30	125	1155	2500	9.2 20	* 2,310	1,155	---
November	74	409	2442	5.2 33	74	409	1480	5.7 20	818	409	---
December	55	391	1760	6.6 32	55	391	1100	6.6 20	782	391	---
January	45	172	1428	3.8 32	48	178	847	3.7 18	350	225	155%
February	57	243	1780	4.3 31	51	244	1055	4.8 21	487	287	169
March	89	462	2840	5.2 32	80	435	1460	5.5 18	897	602	149
April	118	571	4371	4.9 37	110	579	1723	5.3 16	1,150	701	164
May	147	853	5200	5.8 37	138	854	2682	6.2 19.5	1,707	1,172	145
June	255	1180	8497	4.6 33	227	1170	4113	5.2 18.2	2,350	1,323	177
July	331	2023	12015	6.1 36.2	280	1956	4730	6.9 16.8	3,979	2,089	190
August	323	2658	12690	8.2 39.2	294	2585	4785	8.7 16.2	5,243	2,658	197
September	314	1893	9780	6.0 31.1	280	1887	4325	6.7 15.4	3,780	1,972	191
TOTAL	1933	12010	66553	6.2 34.4	1762	11843	30800	6.7 17.4	23,853	12,984	183%
Average	161	1001	5546	6.2 34.4	147	987	2566	6.7 17.4			
October '36	186	791	5490	4.2 29.5	157	700	2435	4.4 15.5	1,491	815	182%

* First 3 months estimates.

NATURALIST DIVISION (CONT.)

This seems to us a pretty good average. We do not see quite why it slipped off in January, February, March and May into the 150% class, when the travel was light as compared with July, August and September when the travel was at the peak and the contacts ran above 190%.

There were 1933 guided trips through the ruins as against 1762 trips through the museum. The fewer museum trips is probably explained by joining parties in the museum; the guide coming in from the ruins finds a new party waiting and joins them to his incoming party making the one museum talk serve both parties, then he takes the second party out through the ruins and thus counts two ruins trips with one museum trip.

12,010 persons were guided through the ruins as against 11,843 through the museum. I would have expected more visitors through the museum, due to the fact that aged and crippled persons could go through the museum but might not be able to go through the ruins. The average party in the museum was 6.7 as against 6.2 in the ruins, which would also look like some people were taking the museum trip who were not taking the ruins trip.

Note that the average number in the party fluctuates from just under four persons to about nine persons in the course of the year. The average trip time in the ruins varies from 30 minutes to 39 minutes and the surprising thing is the greatest trip time is taken in the month of the peak load. I should have expected the men to speed up the trips and cut down the trip time when the heavy load struck, but I suppose that tendency is offset by the slower movement and more questions caused by the larger average party and the net result is a lengthening of the average trip time. Upon examining the average museum trip time, however, we find there is a slight tendency to talk longer in the slack season than in the busy season; this doesn't check precisely but it looks like it might be true.

By adding the ruins trip and museum trip times together we find we have a total trip time running from a minimum of 50 minutes to a maximum of 56.5 minutes, except in September when we get a sharp drop to 46.5 minutes. This last drop runs into October, 1936, when it is 45.0 minutes for the average total trip. We changed men about this time and the change is probably reflected in the amount of service given, the new man taking some time for the 'breaking in' process before he is able to deliver the standard amount of service to the visitor.

It can be seen that we had more ruins trips and more museum trips in October, 1936, than in October, 1935, and that the average number in the parties and the average trip time was lower this year than last. There were less visitors but the parties strung out more, using considerably more total time in the ruins trips than a much larger number of visitors used last year. The average trip time, however, for the ruins, reached

NATURALIST DIVISION (CONT.)

the all-time low of 29.5 minutes, and the average trip time for the museum was only one-tenth of a minute above the all-time low. The total trip time was 45 minutes, which is the all-time low for the thirteen months, the average total trip time for Aztec being 51.8 minutes.

Analysis of Visitor Service, Southwestern Monuments, October, 1936

With eighteen monuments reporting, we had 14,869 visitors as against 12,608 last year. This is a long drop from the 33,507 visitors we reported last month and is in large part due to the natural seasonal drop we can expect when the schools open in the fall.

Our personnel educational contacts amounted to 10,897, or 73.2% as against 9,565 for the same month last year, or 75.8%. The reason for our percentage of contacts falling this year lies in a sharp bulge in the visitor curve for White Sands this year where we have no resident contact man.

We gave more guided field trips to a less number of visitors this year than last and the visitors came in smaller parties and stayed less time. The fact that the parties are smaller this October than last turns up in the figures from several of the monuments and I have no explanation to offer.

We gave 997 museum trips this October as against 389 last year. White Sands and Walnut, which were not reported last year account for part of this increase. At White Sands we have some exhibits in Mr. Charles' office in Alamogordo and he talks to hundreds of visitors there; it is not a museum in the strict sense of the term, but it is talking with visitors over exhibits and, we think, qualifies under that heading. Again the average party shrinks from 7.2 persons last year to 4.7 persons this year, and the average museum time is cut from 20 minutes to 16.8 minutes. No reason appears for this.

Casa Grande furnishes about half the total educational contacts for the month and will probably continue to do so for the remainder of the fall and winter. We have a temporary position established at Casa Grande beginning January 1 but Mr. Winter and Mr. Erskine are going to need help before that if the curve goes up as fast as it is starting.

There is one interesting little point in this table which needs bringing out. Casa Grande, with its comparatively large museum exhibits, held the average party 22.3 minutes. Walnut Canyon, where Paul has a very meager collection of artifacts which can be spread out on top of a desk, held the visitor 21.4 minutes. What is the answer?

STATISTICAL SUMMARY ON EDUCATIONAL CONTACTS FOR OCTOBER, 1936

SOUTHWESTERN NATIONAL MONUMENTS

MONUMENT	No. Employees	GUIDED TRIPS				UNGUIDED TRIPS				Outside Lectures		Total Educational Contact	Total Travel	Percent Contacted			
		Per. Tem.	No.	Att'd.	Time	AV. Att. Time	No.	Att'd.	Time	AV. Att. Time	No. Att'd.				No. Att'd.		
Arches																	
Aztec	1	1	186	791	5.490	4.229.5	157	700	2435	4.4	15.5	1,491	815				
Pandelier	1	2	87	349	6.905	4.080						349	728				
Canyon de Chelly	1	1	8	20	1320	2.5165						20	119				
Capulin Mt.													400				
Casa Grande	2		323	2190	6.729.4	288	1865	6.436	6.4	22.3		4,055	2,190				
Chaco Canyon	1		53	218	330	4.181.6	51	209	940	4.0	18.5	427	732				
Chiricahua	1	1	16	128	1725	8.0107.8						128	690				
El Morro		1	30	153	1695	5.156.5						153	169				
Gran Quivira	1		50	159	2835	3.256.7						159	159				
Gila Cliff-Dwl.																	
Hovenweep																	
Montezuma	2		148	510	5473	3.436.9	115	459	2045	4.0	17.7	969	510				
Nat. Bridges		1											65				
Pajarito																	
Pipe Spring	1		18	89	615	4.434.1							89	89			
Rainbow																	
Saguaro																	
Sunset																	
Tonto	1		65	177	2943	2.745.	75	209	1137	2.7	15.		287				
Tumacacori	1	1	196	743	6502	3.733.1						386	217				
Walnut Canyon		1	77	253	1325	3.217.2	149	450	3195	3.0	21.4	743	808				
White Sands	P	P	66	330	390	5.0	6.0	162	821	569	5.0	703	758				
Wupatki		1	25	74	1600	3.040.0						1,151	5,978				
Yucca House												74	155				
Headquarters												4	524				
Total This Mo.			1348	6184	5266	4.5	39.0	997	4713	16757	4.7	333	4	524	10,897	14,869	73.2%
Total Last Mo.			2089	10427	7755	74.9	37.1	1121	5903	21483	5.2	83	1	35	16,365	33,507	48%
Oct. Last Year			1045	6760	5207	46.4	49.8	389	12805	7780	7.2				9,565	12,608	75.8%

NATURALIST DIVISION (CONT.)

SUMMARY OF EDUCATIONAL ACTIVITIES OF THE NATIONAL PARK SERVICE
(July 1, 1935, to June 30, 1936)

For comparative purposes we have lifted the tabular matter off page 50 of the Park Service Bulletin for September-October, 1936, and filed it in three tables in this report where it can be used in future references.

The first table deals with guided trips and contains some information of great interest to us of the Southwestern Monuments. It comes as a pleasant surprise to us to find that we are delivering over half the guided trips of the whole number reported, 10,558 out of a total of 17,115.

The size of the average party is an interesting thing because it is one of the factors showing the total amount of work done by the personnel. Yellowstone handled its 107,000 visitors in 1900 guided trips, or approximately 87 persons to the party. Yosemite ran 57 to the party, Grand Canyon, 77; Zion, 48; Sequoia, 35; Glacier, 23; Mesa Verde, 21; and the Southwestern Monuments averaged 10 to the party. When you handle 107,000 people in lots of ten to the party, you put a lot of personnel time into the job.

There is evidently an error in the Carlsbad Caverns handling 4,036 in one party. We wonder if the total is correct as the number of visitors handled on the nature trail, and if that is correct we wonder what number were in the average party.

We would like to suggest to the Educational Division the value of gathering figures showing the average time of the average party as this would give us some idea of the amount of personnel time used and allow us to compare the work in one park with that in another.

We wonder if the 100 trips in the horse column for Mesa Verde were guided trips given by park service personnel. We rather think not and we would not count them if they are operator trips given for pay under regular wranglers and with no park service educational personnel along on the trip.

The Southwestern Monuments figures could have been repeated in the "Hiking" column if the Branch of Education preferred to do so as they were really hiking trips through ruins, etc.

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SUMMARY OF EDUCATIONAL ACTIVITIES - JULY 1, 1935 to JUNE 30, 1936

G U I D E D T R I P S

	AUTO CARAVANS			HIKING		HORSE		BOAT		TOTAL	
	No.	No. Cars	Att'd.	No.	Att'd.	No.	Att'd.	No.	Att'd.	No.	Att'd.
Acadia				36	986			15	422	51	1,408
Bryce Canyon	85		4,807	97	4,545					182	18,137
Carlsbad Caverns				1	4,036					1	4,036
Crater Lake	55	377	1,074	50	370			92	1,329	197	2,773
General Grant	10	42	150							10	150
Glacier	11	99	1,303	405	8,022	2	11	220	5,826	638	15,162
Grand Canyon	296	6,315	24,214	96	5,603					387	29,817
Grand Teton	1	4	11	16	198					17	209
Great Smoky Mts.											
Hawaii	184	903	5,857	126	2,455	3	20			313	8,332
Hot Springs				4	180					4	180
Lassen Volcanic	149	964	3,088	185	4,870					333	6,902
Mammoth Cave											
Mesa Verde	905		20,851	1	3	100	373			1,006	21,227
Mount McKinley											
Mt. Rainier & Olympics	3	20	76	278	5,601					281	5,677
Nat'l Cap. Parks (1 mo.)				12	437					12	437
Platt											
Rocky Mountain				84	2,063					84	2,063
Sequoia	92	1,173	5,032	115	4,483					207	9,515
Shenandoah (4 mo.)											
Southwestern Monuments										10,558	107,911
Wind Cave											
Yellowstone	407	7,934	29,442	1,554	141,477					1,961	170,919
Yosemite	206	4,712	19,630	384	14,243					590	33,873
Zion	4		127	279	13,804					283	13,804
TOTALS	2,408	22,543	115,662	3,723	213,376	105	404	327	7,577	17,115	452,659

	L E C T U R E S									
	CAMPFIRE		LODGE		MUSEUM		BEAR AND OTHER SPECIAL LECTURES		TOTAL	
	No.	Att'd.	No.	Att'd.	No.	Att'd.	No.	Att'd.	No.	Att'd.
Acadia	21	3,790	1	150			7	448	28	4,388
Bryce Canyon	21	1,871	89	13,312	138	16,365	84	1,098	332	19,517
Carlsbad Caverns								21,660		21,660
Crater Lake	89	7,744	78	1,801	137	29,608			281	41,731
General Grant										
Glacier	188	13,339	205	16,353		858			420	31,987
Grand Canyon	179	20,360	461	40,556	796	63,389	24	4,700	1,460	129,405
Grand Teton	78	9,144							78	9,144
Great Smoky Mts.										
Hawaii	2	428	14	1,757	148	7,314			164	9,539
Hot Springs					17	2,337			17	2,337
Lassen Volcanic	83	8,432			2	190			85	8,622
Mammoth Cave										
Mesa Verde	112	7,714			418	13,431			530	21,145
Mount McKinley			8	149					8	149
Mt. Rainier & Olympus			217	24,212					217	24,212
Nat'l Cap. Parks (1 mo.)	3	661	1	19					4	680
Platt										
Rocky Mountain	14	1,418	71	4,027					85	5,445
Sequoia	250	63,081	124	11,022	100	8,438	180	35,475	934	127,516
Shenandoah (4 Mo.)										
Southwestern Monuments					4,478	27,592			4,478	27,592
Wind Cave										
Yellowstone	713	126,366	28	1,679	317	26,993	145	160,096	1,279	328,597
Yosemite	332	119,544	186	74,817	1,838	97,373	172	94,835	2,528	386,569
Zion	109	5,477	120	12,637	375	17,056	343	8,622	917	43,792
TOTAL	2,193	389,369	1,603	212,531	8,764	311,344	955	324,934	13,845	1,244,027

DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SUMMARY OF EDUCATIONAL ACTIVITIES - JULY 1, 1935 to JUNE 30, 1936
(Sheet 3)

	MUSEUM VISITORS	LIBRARY AND OTHERS		LECTURES OUTSIDE PARK		TOTAL CONTACTS	TOTAL NUMBER VISITORS	PERCENT CONTACTED
	Number	No. Loans	No. Contacts	No.	Att'd.			
Acadia	7,683	2	1,118	2	79	14,676	317,910	4.6
Bryce Canyon	7,964					50,375	73,244	68.
Carlsbad Caverns						157,714	132,045	119.
Crater Lake	20,567		6,223	42	4,922	77,411	130,502	59.
General Grant						33,004*	134,416	25.
Glacier			26,261	46	7,786	130,536	151,711	89.5
Grand Canyon	135,729	296	491	1	50	295,497	241,111	125.
Grand Teton	17,719			1	100	27,165	71,168	38.
Great Smoky Mts.				4	310	51,634*	516,347	10.
Hawaii	12,435			2	1,725	32,021	138,556	17.
Hot Springs	93,910			9	2,391	98,124	277,023	35.
Lassen Volcanic	23,569			14	1,319	33,566	57,693	58.
Lammoth Cave								
Mesa Verde	26,053	85	144	12	4,263	72,634*	22,900	317.
Mount McKinley				1	55	1,206*	1,002	120.
Mt. Rainier & Olympus	127,185			25	4,692	161,736	260,125	62.
Natl'l Cap. Parks (1 no.)				3	703	1,820	1,820	100.
Platt						40,650*	243,252	20.
Rocky Mountain	31,303			61	4,708	43,519	322,665	13.5
Sequoia	30,971	1,149	1,149	3	300	169,451*	208,117	81.
Shenandoah (4 no.)						8,634*	172,687	5.
Southwestern Monuments	31,035	1,356	5,827	53	4,894	177,259	212,133	84.
Wind Cave						21,322	21,322	100.
Yellowstone	492,841	396		55	10,544	1,003,034	346,795	283.
Yosemite	296,115			28	7,213	723,570	395,214	183.
Zion	35,588			17	4,212	102,217	107,871	95.
TOTAL	1,390,606	3,284	41,213	379	60,268	3,544,600	4,612,694	77.

NATURALIST DIVISION (CONT.)

BIRDS Banded BETWEEN JULY 1 AND NOV. 1

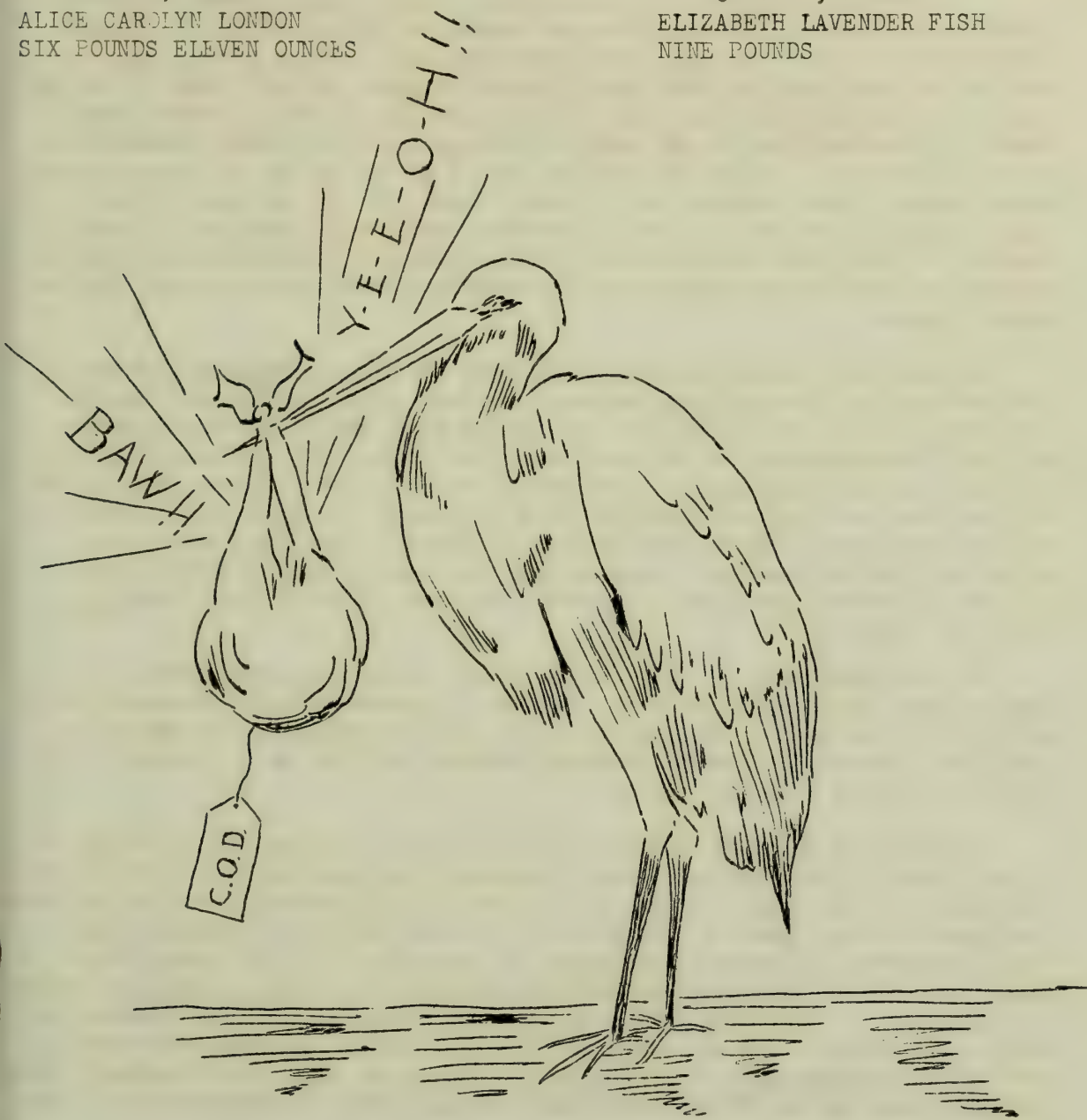
Bird	Walnut Canyon	Pipe Spring	Tumacacori	Casa Grande
Bluebird, Chestnut-backed	29			
Bunting, lazuli			1	
Arizona Cardinal			4	
Cowbird			1	
Crossbill	28			
Dove, Inca			1	2
Finch, House		1	1	
Flicker, red-shafted	2			
Fly-catcher, Arizona crested		5		
Goldfinch, greenbacked	1			
Grosbeak, Rocky Mt. evening	2			
Junco, red-backed	1			
Mockingbird			2	
Nuthatch, pigmy	12			
Nuthatch, Rocky Mt.	1			
Pyrrhuloxia			5	
Quail, Gambel				3
Robin, Western	3			
Sapsucker, red-naped	4			
Siskin, Pine	38			
Sparrow, Gambel	1			
Sparrow, Western chipping	7			
Tanager, Western	2			
Thrasher, Palmer			1	
Towhee, Canyon			4	
Wren, Cactus				1
TOTALS	131	6	20	6

Oct. 17, 1936.

ALICE CAROLYN LONDON
SIX POUNDS ELEVEN OUNCES

Oct. 26, 1936.

ELIZABETH LAVENDER FISH
NINE POUNDS



WESTERN UNION

10-26-36

FEELING UNABLE TO HANDLE AZTEC ALONE AT ANNOUNCING A NEW HELPER
JAMES CHESTER SEVEN POUNDS FIVE OUNCES STOP PLEASE SECURE CIVIL
SERVICE RATING

JOHNWILL FARIS

CLOSING

I trust you will gain the impression, Chief, that we have been pretty busy down in the Southwestern Monuments this past month, though as a matter of fact the boys have side-stepped a little on the reports and let us down some in this consolidated report. We will have to bring this to their attention and see if they can't do a little better next month. It seems like enough ought to happen even on a dull monument in the slack season to allow the man in charge to write two or three single-spaced pages about a month of it, and I have yet to get one of these boys to admit that he has a dull monument or that he ever has a slack season, so they ought to have no trouble getting together enough interesting information about the month's work to cover three or four single-spaced pages.

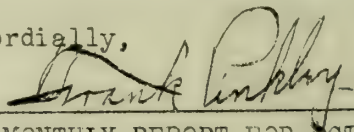
We hope the tabular matter filed away in this monthly report won't look too dry at first glance and thus prevent your finding out how interesting it is. It deals with the second most important thing in the National Park Service -- the visitor and it deals with quite a number of him. We are beginning to get some ideas as to what we can and cannot do with him; not that we think we know all about visitors or even that we know very much, but we are getting together a few ideas that have stood the test of several thousand parties, and, probably better yet, we have punctured some lovely theories we used to have which have not stood the test.

In the Supplement to this issue we are running a short article on what studies have shown visitors will do in certain types of museum rooms and we wish you would take time to look over it because it seems to us that the layout of a museum through which a million or so visitors will pass is a pretty serious thing.

Jeff Milton dropped in here the other day and among other things we talked some of the possibilities of making a national monument out of the old town of Tombstone. He has had a great hand in making some of the history down in that part of the country, is now living in Tombstone and is very interested in making a monument of the town if it is found to be feasible. Mr. Milton is seventy-five years young, hale, hearty and sound as a nut, and he has been living Arizona history for the last fifty-five years. It seems to me we ought to have some of our Regional Historians get down into Tombstone for a couple of weeks and make a preliminary study with such men as Mr. Milton and find out just what the possibilities are for that proposed national monument.

It looks like a good season is ahead of us this winter in the Southwest. Reservations at the resort hotels are reported heavier than for several years and winter visitors are already beginning to arrive in numbers in Phoenix, Tucson and El Paso.

Cordially,



THE Supplement

S-M MONTHLY REPORT

16

16

REPAIR AND RESTORATION OF TUMACACORI-1921

By Frank Pinkley,

(Ed. Note: While going through the old files the other day on some other matter we ran into the old report of the work done on the Tumacacori Mission in 1921. The original of this report was filed with the Washington Office, but in reading it over we thought it was of sufficient general importance and has enough historical value to incorporate it here.)

Early in the year it was decided to restore the roof over the nave of the church and arrangements went forward so that the work started the latter part of April.

Our fund for the protection of national monuments being so small as to preclude the allotment of an amount sufficient to complete this work, and there being no way of putting half a roof on this year and another half later on, recourse was had to local aid.

Too much credit cannot be given to the local organizations who contributed funds for this work. The National Park Service allotted \$800; the Knights of Columbus of Tucson gave \$100; The Arizona Archeological and Historical Society gave \$160; the Chamber of Commerce of Nogales gave \$600; and the Knights of Columbus of Phoenix gave \$100; making a total of \$1,760 on hand when the work started. In July and August further allotments of \$395 were made from Service funds, so the total amount expended came to \$2,155.

The roof was partly a restoration and in part a modern weather-proof construction. Special sizes of bricks were manufactured and burned and with them the badly eroded walls were carried up to their original height. This included raising the front wall ten or twelve feet in the restoration of a semi-circular pediment which originally formed the upper part of the facade.

Logs were brought out of the mountains, hand hewn, stained to give the appearance of age, and put in the places of the old beams. Ocotillos were brought in from the desert, cut to fit, and placed on top of these beams, forming the ceiling.

Viewed from the interior of the church, the roof is a perfect restoration. A complete restoration would not, however, have been so satisfactory from the weatherproofing standpoint, so above this restored portion we built a modern roof, from which the drainage is cared for through the restored downspouts of the old construction. This modern roof does not show from below, being hidden by the parapet walls of the nave, which extend above the roof line.

Aside from work on the roof, the tower stairs, running from the ground level to the bell arches in the third story, were entirely restored, they having been dug out long ago by treasure hunting vandals.

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (Cont.)

Many other smaller places too numerous to mention were patched and filled wherever it was considered necessary to strengthen walls or remove traces of vandalism.

General Conditions

It must be remembered that the Tumacacori Mission is 18 miles from the nearest town and that, although we had a good motor road to Nogales, railroad shipments were out of the question.

The amount of work to be done precluded the use of labor-saving machinery as the expense of buying or renting it and bringing it out would have more than offset the saving gained by using it.

We were thus forced by circumstances to do the thing which our logic suggested; follow as nearly as possible the methods of the builders in making our repairs. This line of reasoning applied to the men to be used in the work as well as to the methods.

We had the choice of bringing high priced workmen out from town and boarding them in a camp, or of using the workmen of the locality who could live at home while the work was going on. We chose the latter course for several reasons, and while there were times when we were discouraged and thought maybe we had not made the wisest choice, we were at least wise enough not to change horses in the middle of the stream, but carried through the original plan to the end of the work.

The high-priced expert workman would have meant a heavy pay roll over a short period of time and our funds were not arranged so that we could secure them so freely as that would demand. That part of the money contributed by bodies outside our Service could not be obtained on short notice in every case, so it was considered wise to proceed with the work by easy stages rather than to crowd it to a quick conclusion.

Another objection to rushing work of this kind lies in the need of time to note and digest the many points which come up as the work proceeds. Haste would cause many problems to be slurred over, wrong solutions applied to others, and a general tangling of affairs, due to the fact that we were under a heavy daily expense and could not hold up the men to obtain the right solution.

Another factor with us was that the expert workman, be he brick man, cement man, plasterer or carpenter, is not inclined to brook much interference with his methods and more or less friction will be started when one tries to experiment and adapt present day methods to hundred-year-old results.

By using local workmen we reduced our amount of work done per day about

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (Cont.)

20% as compared with the same number of expert workmen; but since our cost per day was reduced about 50%, the net result was a gain, the amount of extra time used in making the repairs not being a serious factor.

I was unable to be on the ground all the time when the work was going on and this was a decided disadvantage. My other duties kept me going back and forth and it was only the last five or six weeks of the work that I was able to be with the boys practically all the time. Questions arise from day to day which need the decision of some person who knows the causes, history, and environment which led to the construction of these walls. In some of these cases, unless the leader is present, the men must choose between delaying the work for a decision or making a guess which may be the wrong one.

We experienced the usual troubles which a Government man on a small job in a semi-isolated position like this will generally find. Since it was a Government job we were expected to pay high wages and be generally generous and easy. The hardest single phase of running a small Government job is in meeting the payroll. So far as possible local funds were used for this purpose so we could draw checks on local banks and pay off Saturday night or Sunday morning for the week just closed; but toward the end, we had to put the men on the Government payroll, which meant a two or three weeks' delay in getting the pay checks. This caused a good bit of dissatisfaction as these men live from hand to mouth and had no means of bridging this gap and feeding their families unless, as in one or two cases, temporary loans were arranged.

The summer rains caused some trouble although they did no serious damage other than flood our storage room in one case and slack two or three sacks of lime for us, and wet and spoil some cement on its way out from town in another.

There is no intention here to point out only those general conditions which were not favorable to us. Many things worked together for our good, but it is human nature to note and remember those things which cause delay and trouble.

We had, as has been stated, a splendid wagon road from Nogales to the mission over which we could bring in material and supplies regardless of the weather. The matter of drayage over this road developed a peculiar twist which puzzled me for some time before I settled on its cause. It was only 18 miles to town, and a man with a two-horse team could have made the round trip in a day, bringing out a 2000-pound load, but I could never get it done that way. The freighter, a Mexican, would hook up a four-horse outfit, drive down to town the latter part of one day, stay overnight and come home the next day with the load. He thus put in two long half days rather than one long day. It took me some time to figure out that a generation or so ago, when this freighter was

a young man, the roads in that part of the country were none too good and this trip from the mission to town and back was too much to be made in a single day or with less than a four-horse outfit. This man's mind has not changed with the changed conditions and he still thinks that it is the proper way to get a load from town and far be it from him to depart from the ways of his fathers! Since I was paying for the drayage by the hundred pounds, I didn't consider it worth while to try to uproot this local belief in the old customs in this particular case, so the freighter had his way and used all the time and horses he wanted.

The Bricks

In the restoration of the walls we were to use two classes of bricks; the adobe and the burned brick.

The adobes presented no particular problem excepting that the Mission adobe is much longer and thinner than the common size in use today, being $11\frac{1}{2}$ inches wide, $25\frac{1}{2}$ inches long and $2\frac{1}{4}$ inches thick.

The adobe is a sun-dried brick in common use all through the Southwest for building purposes and perhaps a little description of the method of its making might be interesting. Fortunately we had water near at hand in a little ditch about a hundred yards east of the Mission, which, by the way, must be running on almost the exact line as the one the padres used during the ancient days to irrigate their garden and field. The boys dug a pit a few feet to one side of this ditch, removing and discarding the surface dirt as not fit for adobes. The surface soil at this point had been built up a couple of feet in the last century and it was only after going through this accumulation of past generations that the men pronounced the material good 'dobe dirt. About a wagon load of this dirt was then loosened up in the pit and worked over with the shovels until it was fairly well pulverized. Stones and sticks of any size were picked out during this working. Water was then led from the irrigation ditch by a small trench and allowed to run into the pit while the dirt was turned with the shovels until the boys had constructed a magnificent mud pie. The water was then shut off and some refuse straw was worked into the mud. This straw was to bind the mud together when it was dry and to help absorb the rain when it falls on the face of the brick after it is placed in the wall. The men at this stage prefer to work barefooted with their trousers rolled up above the knees and it is a real athletic exercise to mix a wagon load or so of mud while standing on such insecure footing.

When the mixing is finished, one man in the pit shovels the mud up into a wheelbarrow and a second man wheels it away to the moulding ground. This is a level piece of ground which has been raked and dragged flat with a board. The moulder has his mould ready on the ground and the barrow man wheels his barrow up and empties it directly into the mould which is simply a frame without top or bottom having three

REPAIR & RESTORATION WORK AT TUMACACORI in 1921 (CONT.)

or four compartments the size of the prospective adobes. The moulder then gets down on his knees and rams the mud into the frames with his hands until all the frames are full, when he 'strikes' them by raking the surplus mud off at the level of the top of the frames. The two men then pull the frame up, leaving the newly moulded bricks, like so many cakes of black jelly, lying on the ground. While the barrow man goes back after another load of mud the moulder washes his frame off in a bucket of water and lays it out on the ground ready for the next load.

A couple of days after moulding the bricks are dry enough on top to turn up on their edge. Another two or three days and they are dry enough to stack, or, if they are wanted for immediate use, to be hauled to the job and placed in the wall.

This method of manufacture leaves finger and hand prints on the bricks which dry and become lasting impressions, so that the sign manual of our boys went into the walls in the bricks they made. In tearing some of the top material off the walls to start the reconstruction we often saw these handprints left there by the people who laid the bricks more than a century ago. In one case we found a perfectly preserved cocklebur in a brick when we broke it in two, and in another a little blue bead which had probably once been part of a necklace around some dusky throat.

The burned bricks caused us quite a bit of worry before we finally arranged for a supply of them. Seven sizes of burned bricks have so far been identified in the walls of the mission and I would hesitate to say that these were all that were used.

The most interesting size to us, because it was the hardest to manufacture and to lay, was the one we called indifferently the cornice or moulding brick. It is represented by Figure 1, Plate I, is 22 inches long over its greatest length, $13\frac{1}{2}$ inches wide at its greatest width, and is 3 inches thick. In other words it is the size of seven or eight of our common bricks of present day manufacture. One end of this brick is moulded in a scroll shape and a line of the bricks, standing side by side with this scroll end projecting over the wall, forms the cornice.

When we went to a brick man in Nogales and asked him to quote us a price on 1500 of these bricks, he said they couldn't be made; that they were so big that they would not hold together through the drying and burning processes but would crack and go to pieces. When we pointed out that they had been made by the padres out at the mission, he said maybe they could make them but he would hesitate to do so with the soil he had at Nogales. We finally persuaded him to say he would try 1500 of them at 10 cents each. We were not satisfied with this deal but kept looking for some one who would come out to the mission and burn the bricks right on the ground, for the wagon haul of 18 miles out from Nogales, no matter how good the road, meant a heavy loss in breakage.

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

At last we were able to find a Mexican by the name of Lopez who had had experience in building kilns and burning bricks, who agreed to come out and build us a kiln if we would make up a total of 6,000 bricks. We decided we needed two other sizes besides the cornice bricks to make the proper restorations and, while we would not need as many as 6,000 bricks for this present work, it would be no loss to have some bricks left on hand for future repair and restoration work. The other two sizes decided upon were the wedge shape and the 8 by 16.

The wedge shape brick shown at Figure 2, Plate I, gave us considerable cause for study and it was the better part of two months before we finally decided upon the reason for its shape. Architects, engineers, and contractors, all declared it was built for an arch brick, but all the arches in Tumacacori are built of the plain mission adobes. The wedge shape brick was found too in places where its shape could not be accounted for. It was used on the shoulder or offset of the outside walls, in the pediment on top of the front wall, and one or two other places where the 8 by 16 brick would have given more satisfaction.

The explanation finally arrived at was that it was a dome brick put to a secondary use in all the places we had been finding it. Upon this theory we experimented and found that the bricks laid flat, side by side, with the small end of the wedge pointing inward, formed a circle about seven feet in diameter. Smaller or larger circles could be made by making the cracks between the bricks wedge shaped, at the outer side for smaller circles and at the inner side for larger circles, so that a dome of any size could be started and gradually drawn in at the top without using false work underneath to support it during construction.

This explanation of these bricks checks out with a historical note in Bancroft's Arizona and New Mexico, (Page 385, footnote) where he says, "In 1822 a new church was in process of construction or extension, but work was for a time suspended on account of trouble about the pay for 4,000 head of cattle that Padre Estelric had sold to obtain funds."

Padre Liberos, who was in charge of the Tumacacori Mission from 1822 to 1824 was delayed in his work by lack of funds. He had used up all his standard sizes of bricks in the walls and could not get the necessary funds to burn another kiln. In this extremity he realized that the first thing to consider was protection, and to get protection from the weather for his exposed walls and offsets, he decided to use up the wedge shaped bricks which had been made for the domes over the bell tower and mortuary chamber. He expected, as soon as his funds were available, to go on and burn another kiln of bricks in which he would include another supply of dome bricks, and finish his church, but the church was abandoned before the work was completed.

PLATE I - Brick Sizes Used at Tumacacori

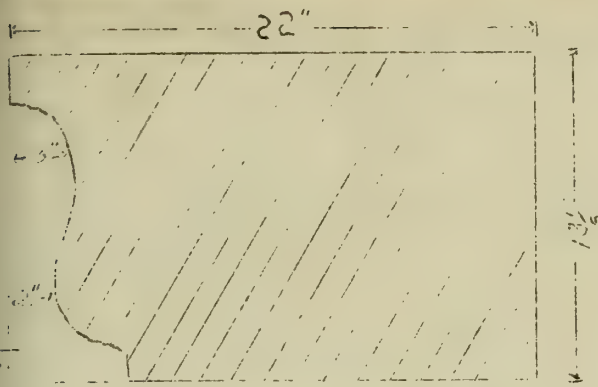


Fig 1 - Cornice Brick
3" Thick

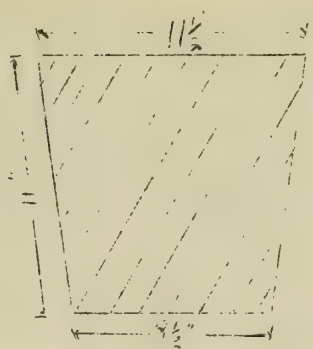


Fig. 2 - Wedge Shape
Scant 3" Thick

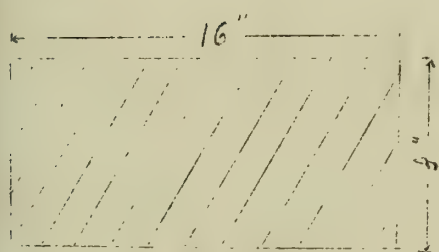


Fig 3 - The 8x16
3" Thick

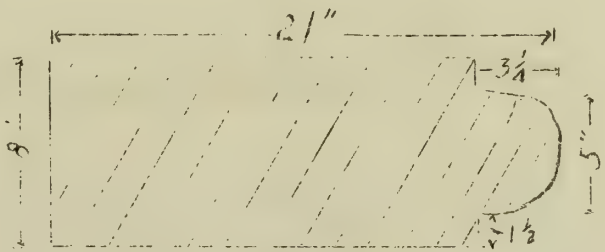


Fig 4 - Tower Moulding Brick
3" Thick



Present Commercial Brick

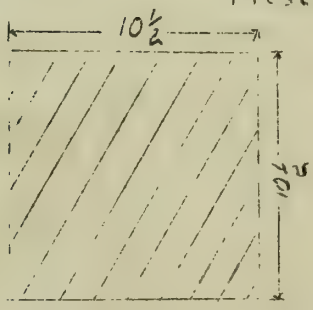


Fig 5 - Moulding Brick
1 1/2" Thick

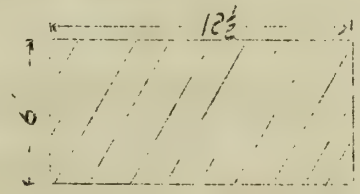


Fig 6 - Floor Brick
2 1/4" Thick



Fig 7 - Dome Step Brick
2 1/4" Thick

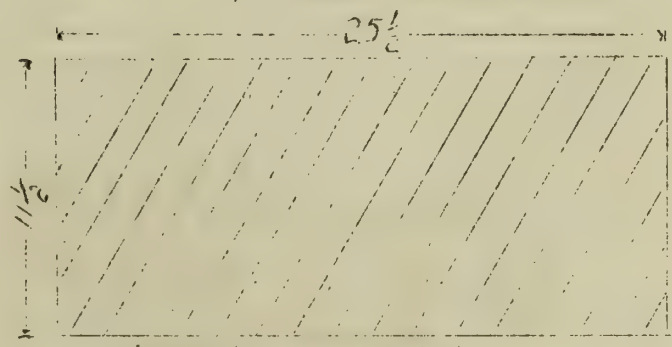
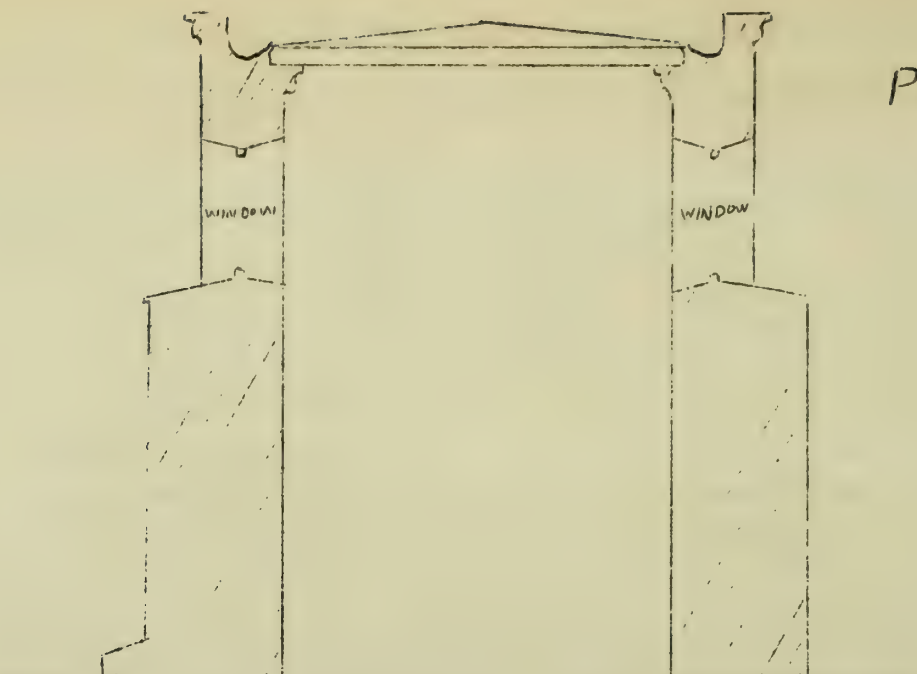
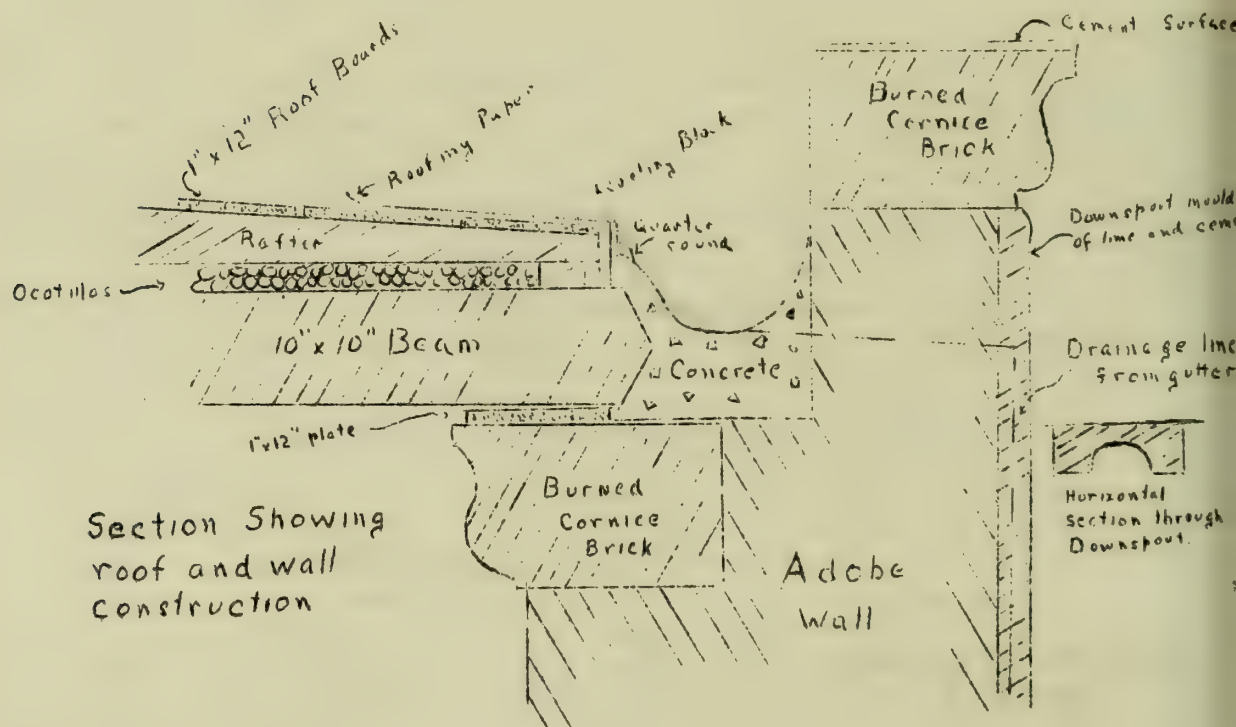


Fig 8 - Mission Adobe
2 1/4" Thick

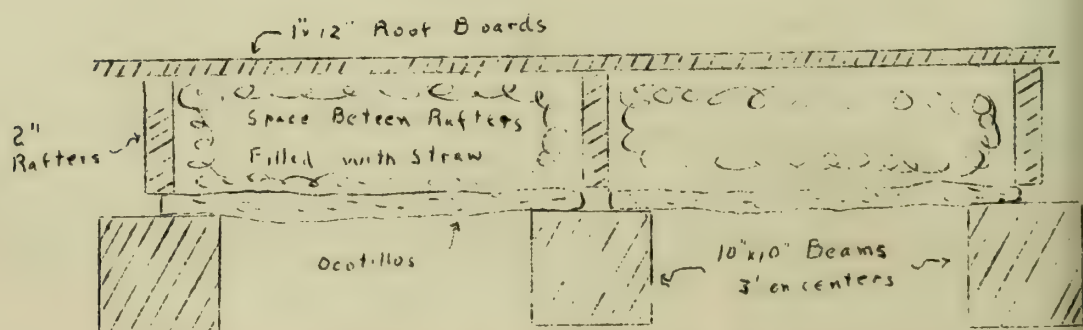
PLATE II



Cross Section, Tunacacori Mission.



Section Showing
roof and wall
construction



Section Through Beams and Rafters

We arrived at this solution of the problem of the wedge shaped brack too late to keep us from burning a supply of them, so while it was not really necessary, we restored the wedge shaped brick where we found it had been used with the exception of the pediment at the top of the front wall where we considered the 8 by 16 size stronger for the purpose.

A few words of explanation may be in order about the other sizes of the burned bricks.

Figure 4, is a special moulding brick used in the bell tower, the half round projection forming the moulding which can be seen near the corners of the tower, and the frame which can be seen around the bell arches, are made of this brick. Figure 5, is a thin square brick. A line of these bricks was left projecting at the spring of the arches, just under the bell beams, in the bell tower. They project a little over an inch and were to be covered with plaster, forming a neck mould at the spring line of the arch.

Figure 6 shows what seems to have been intended primarily for a floor brick, although it has been found in one case, at least, in a wall, and in another as a capping for a bench. Figure 7 is the dome step brick. Photographs show a series of 12 steps leading up to the cupola on top of the sanctuary dome. These were for the practical purpose of getting up to the cupola to make repairs should the occasion arise, and for the artistic purpose of breaking the monotonous line of the dome. For a long time I thought these bricks were simply cut to shape out of the 8 by 16 size, but upon close examination they prove to be special diamond shaped bricks made for this particular purpose; only twelve of them were ever used!

The methods used in mixing and moulding the burned bricks did not differ essentially from those described above used in making the adobe bricks. We had to experiment with various amounts of sand and finally mix in a little straw to keep the large cornice bricks from cracking while drying.

After the bricks were well dried they were built into a kiln and burned, nine or ten cords of wood being used in the burning. Their quality, we found when we came to using them, was not so good as the old bricks of the padres. I think this was partly due to the burning; that they would have been better if we had burned them longer, and partly due to the fact that the material we had to use was more or less mixed with the loan of a century's use of the surrounding soil, probably reducing the clay content of our brick as against those of the padres. However they served the purpose for which they were designed and cost us less than they would if we had bought them in Nogales, aside from the saving of the drayage in transporting them and the loss in breakage.

The Timbers

Feeling pretty well satisfied that we had conquered the question of bricks herewith to bring our walls up to the proper height, we next began to consider where we were going to get the timbers for the roof which was to cover the nave. The original roof was of pine timbers brought from the Santa Rita Mountains, at the nearest point about 20 miles away to the east across the Santa Cruz River.

I went over and looked out the country on the side of the mountains nearest to us, going up the White House Canyon as far as it was navigable for a Ford, and going into consultation with a Mexican up there who had lived in those parts about thirty years. He assured me that the timbers could not be brought out that way. There were some large enough for our purpose up near Old Baldy, but it would be a question of snaking them two or three miles over canyons and washes to a point where our wagons could get to them. Before this I had sent a Mexican over who had spent a day and a half looking out the country and he had come to the same conclusion. I believe we looked over the ground where the padres got their pine timber but all the large trees have been cut out of that part of the mountains in the last two or three generations.

Balked on this line, we had recourse to some Mexicans who had mined around on the south and southeast slopes of the Santa Ritas and assured me we could get trees of the size we wanted around there. This meant a matter of snaking the trees from the point of cutting some distance to the wagons; a wagon haul of about 12 miles down to the railroad; a rail haul of about 30 miles around to Tubac station; and then bringing them across the sandy Santa Cruz River to the mission on wagons. All this was finally done and we landed 20 sticks of timber eighteen feet six inches long, with an average diameter of about fourteen inches, on the ground.

We could, of course, have purchased timbers of the size we wanted at the lumber yard in Nogales; but there is a certain amount of sentiment to be taken into consideration in work of this kind, and I wanted, as far as we reasonably could, to use the materials and methods of the original builders.

I am sure the original timbers were pine because I have talked with two different men who claim to have seen the mission when a few of the rafters were yet in place and both men agreed they were pine. Not satisfied with this, we traced down a story to the effect that some of the timbers were taken out of the roof by Mr. King in the 60's or 70's and built into a house across the river. We found that the railroad, in building from Tucson to Nogales several years ago had condemned the land this house stood on for a right-of-way, destroyed the house, but had left one timber lying along the right-of-way. This timber laid there until a couple of weeks before we got interested in it when a clean-up gang of

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (Cont.)

section men set fire to the weeds and grass on the right-of-way at that point and burned the timber. We were still able to get our evidence however for, although we lost the pleasure of being able to restore an original timber to the roof, we were able to tell by an unburned portion of one end that it was pine, to get the approximate size of the rafters, and, by measuring the ashes on the ground, to get its length, which checked with the width of the nave of the church.

After getting our timbers on the ground we had our work cut out, so to speak, to get them hewn square and get them up on top of the 24-foot walls of the nave. We were all new to this work but by this time we were getting the habit of developing our own methods as the various needs arose so we got an axe and an adze and experimented until we were able to square up timbers which are passing inspection today by hundreds of visitors as a first-class job.

One day as I was squaring one of the pine timbers with an adze and thinking how, just about a hundred years ago, on this same plot of ground, a priest with his robe tucked out of the way was swinging a similar adze on another pine log from these same mountains, I was called back into the present by the drone of an airplane and, leaning a few minutes on the handle of my adze, I watched the silver glint of the sun on the wings of the plane as the man on fire patrol over the Santa Rita Forest Reserve went off duty and flew home to Nogales, making the 18 miles from our place to town, which would have cost Padre Liberos a weary half day, in about 10 minutes.

We spoke often while we were at work of what the padres would think could they revisit today these scenes of their labors.

When the timbers were squared out we devised our own tackle methods for getting them on top of the walls and succeeded in a couple of days' hard work in lifting them up safely without damaging the walls or breaking any heads. Here they looked entirely too new and white, so we decided to darken them a little to give them the appearance of age. We experimented with some crude oil diluted with kerosene and after painting and repainting some sample beams two or three times, attained what we considered the proper shade and went over all of them. The proper shade was largely a matter of guess-work for we were using the stain in the open air and bright sunlight and it would be seen against the semi-dark ceiling of the roof from the interior of the church, so we had to make it several shades lighter than we expected it to look later on. We were very fortunate in hitting upon the correct shade, and many visitors, looking at the roof now upon entering the church, think the beams are the original ones and are a hundred or so years old.

The Ocotillos

The construction used in the original roof was to set the main

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

beams about three feet on centers and then crosswise over them put on a layer of ocotillo stems, ribs of the sahuaro cactus, or small brush. On top of this second layer was a layer of grass and above this, either dirt, with a lime surfacing in which bits of bricks were bedded to give strength, or the lime may have been put on the grass without the intervening dirt. By a process of elimination we decided the padres must have used the ocotillo stems. The sahuaro cactus does not grow in the vicinity of the mission and the ocotillo stems would have been much better for the purpose than the more crooked mesquite or the small reeds or brush which might be found along the river.

The ocotillo is confused by the average desert visitor with the cactus family, but it belongs to a very small family of its own, Fouquieriaceae, having only one genus and a very few species. Armstrong in "Western Wild Flowers", gives the following description:

"A magnificent desert shrub, when in full bloom, but strangely forbidding in aspect in spite of its beauty. Its many stiff stems, from six to twenty feet tall, entirely without branches, stand up stiffly from the root, like a bunch of wands, and are armed their whole length with terrible thorns, which in the spring are masked with beautiful foliage, like little apple leaves. From the tip of each wand, springs a glorious cluster, from six to ten inches long, and crowded closely together, suggesting a flame and waving to and fro in the wind with a startling effect against the pale desert sand. When the flowers and leaves are gone, the clumps of dry, thorny sticks look quite dead and it is hard to believe that they were so splendid early in the season."

Having decided to use the ocotillos to cover our beams, we began looking for an available supply and seeing what they would cost us. They grew rather sparsely on our side of the river and were back up on a mesa where we could not get to them easily with the wagons, so we decided to bring them over from the other side. This we found to be quite a little job, and before we had brought over as many as we needed, the river got up and cut us off from that supply and we were forced to get the remainder on our side. It was fortunate that we only needed part of a wagon load to complete the work, for it took two or three days persuasion to get the Mexican to go out and gather them on the rough mesa.

Other Materials

Sand was obtainable in two or three washes a short haul from our work, and toward the end of the job an obliging young cloudburst washed down a plentiful supply about thirty yards from our mixing box.

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

Lime and cement were purchased in Nogales as was lumber, roofing paper, and like materials. We found we could not make a straight lime mortar which was strong enough to suit us, so we put cement enough in to make it the strength we wanted.

The Need of Protection

Having explained the sources of our materials, we are now prepared to take up the need of protection and the work itself.

The need of protection, and the primary cause of the restoration done in this work was protection, was very great. Destruction at the Tumacacori Mission has occurred from two main sources; the elements; and treasure seeking vandals.

A century of storm and sun had disintegrated surface in many places and eaten into the adobe walls. Settling cracks occurred in some places, due I think rather to the weight of the walls than to any earthquake; such as destroyed the towers of Cocospera in 1886 or 1887. The tops of the walls of the nave had worn down two to four feet and in some places we had to cut another foot or two off to get down to a solid footing so we could begin to build up the new wall.

The Treasure

Almost all the vandalism can be traced to the treasure hunters. For generations tales of buried treasure have hung around the Tumacacori Mission. If one is to believe all these tales, the padres spent all their time in mining and reducing immense amounts of gold and silver and the church was rich beyond computation.

Most of the vandalism has been done, not on any system but on 'hunches.' A scoundrel with a pick and shovel seems to have felt free to walk into the church any day and dig here, there and yonder without rhyme or reason. It never seemed to dawn on his dull brain that if the padres were hard-pressed and decided to abandon the mission in haste, they would hardly try to secrete any valuables by tearing up a perfectly good cement church floor where the soft earth and broken material would be sure to tell the tale to the first visitor, when they could go out into the garden and dig a hole in the freshly turned earth where a newly covered hole would merge into the rest of the soil and would not be noticed twelve hours after the work was completed.

One school of treasure seekers are trying to use some system in their work, but, so far at least, have not attained any success. In my work as custodian of the Tumacacori I have happened upon four copies of a document in the hands of different treasure hunters, from which they were constructing charts with which they were expecting to find the mines and treasure of the padres.

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

While it is not exactly germane to our subject of the repair and restoration of the Tumacacori Mission, a copy of this manuscript might be of interest, and I will insert a fairly accurate translation here, leaving the distances blank at the request of the person who allowed me to transcribe this copy.

The Manuscript

"One document which dates of the years 1558 to 1668. It expresses as follows:

"The mine which is called 'Virgin of Guadalupe' close to Tumacacori, it will be found at -- leagues, measured from the great door of the church to the south, and from the waters of San Ramon measured to the left---varas to the north. About --- varas before arriving at the mine is a black rock engraved with a chisel. On the rock you will read the inscription CC D and --- varas from the cross you will find the treasure and that is what the letters signify.

"At --- varas after you pass the black rock you will find a small monument in the direction of southwest. It is two peaks which were demolished by powder and fell over the mine in great masses. Without more testimony than the powder put in the cliff the place was abolished forever so people could pass over it and it would never be seen.

"In a certain place exists one square of --- varas in a square inside and outside the mine and the treasure is in the middle of the square. In the mouth of the mine there is silver and gold and white silver. The gold was brought from the mountain of Guachapa close to Tubac. The silver consists of 2050 bars smelted together with 905 of virgin silver. The whole amounts to the value of about 50,000,000 (pesos?).

"Ahead in the same direction to the south at --- leagues from the mine of Guadalupe there is a passway which is called 'Deep Water,' It has at the south, by the road of the passway, a canyon which opens out at the town of Santa Cruz. The mine will be found when you get in the pass. Below the said pass way are 12 arrastas and 12 patios. There is one tunnel of 30 varas which has the name 'Purissima Conception' engraved with a chisel. A tunnel runs to the north and about 20 varas ahead there is another tunnel, small about 100 varas, and it runs to the west. The ore is yellow. It runs 1/2 silver and 1/5 part gold.

"At --- varas there is a mine in the direction of north. You will find in this native silver from one pound to at least 5 arrobas, the greatest. This mine will be found covered or hidden by a copper door; it has enormous iron bars, everlasting. The copper was brought from the neighborhood of the mountain of Guachapa in the neighborhood of Tubac, smelted in Tumacacori and was taken with oxen to the mine in the years 1558 to 1658.

"From the mine 'Purissima Conception' to the mountain of Our Lady of Guadalupe there are --- leagues and half way on the road in the same direction there is another mine. It will be found by the name of 'Opata'. It has a tunnel 400 varas long and it runs to the south. The metal of this mine has a lime contact, and about 300 varas from the mouth of the mine there are some inscriptions and furthermore there is a long black mesa from the side where the sun rises and sets. Follow a deep canyon to a rock slide. You will see one inscription made by a bar. Here is a hole $1\frac{1}{2}$ vara deep and it will last forever. Opposite, to the south of the canyon, you can see the mark of the gold. At the side of the canyon to the north of the mark we have --- leagues from mine Opata to Tumacacori. The mark is to the west.

"On the other side of the mountain you will find the mine of Our Lady of Guadalupe. You will find the letters engraved "P. L. R. 12 Dec. 1508". This mine was found by chance and all her interests remain in charge of Tumacacori. In this mine will be found a copper box. It has a key hanging on one corner. There is a set screw which you open and then there is a rod which you pull out and open the box. There will be all the maps and the great treasure.

"If any one by chance will have the great fortune to find one of the mines he shall be obliged for the good of his soul to give 10% to the mother church.

"In the year 1558 belonging to Tumacacori was a mine by the name of San Pedro which you will find --- leagues from the mine Isabelle. The river is to the north --- leagues and the mine is close to some black rock at the point of the mountains. From this point a trail goes to the mine San Pedro, in a line with a line of the mountains at a point of the bar. The mine is --- leagues from the side door of the church to the west and when the sun rises it is directly in the mouth of the mine, and from this mine you can see the town of Arivaca.

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

"From the Virgin Guadalupe it is --- leagues to the mine San Pedro. There is a landslide of about 1/2 vara from the top to the bottom of the canyon. There is a trail that descends from the mine San Pedro. It comes down to the Virgin Guadalupe in the direction of the south to the mine of San Ramon. The eyes will be engraved in one rock. In the mine of San Pedro will be found enormous slabs of virgin silver, two deposits of virgin silver. There is a wooden door. To the west there is a landslide and in it there is a deposit, and to the east there are others, and at a certain place there are three deposits containing all pure virgin silver.

"And notice is given that any person who finds this mine will be obliged to give to the mother church 10% and repair this church, and the Lord will bless his soul."

(The following notice is appended to the copy of one document which I saw.)

"Notice: The original of this document was in the archives of the parish of Magdalena, Sonora, and from there it was taken by a priest to the museum of Paris."

It will be noticed at once that the dates of 1558 to 1658 given in this document are entirely too early. Tubac, Tumacacori, Arivaca, and several of the names given here, do not appear in history until after Kino's first visit in 1691.

Yet the internal evidence points to the fact that all the copies of this manuscript which I have seen came from some master document. On the face of it it looks like a hoax, yet I know two or three people who believe earnestly that it is an honest document and points the way to real mines and treasure.

The local population felt quite sure we were treasure hunting when we ran some experimental trenches in the odd hours after quitting time in the evenings. The main object of this trenching was to establish, if we could, the location of the older church. We failed in this, but we did pick up a few interesting points in the plan of the quadrangle so the work was not wasted. The trenches were filled up when we were through with our examination, as to leave them open to the elements was simply to invite further destruction. We have two pits still open on an unfinished trail which we hope will uncover one of the bells.

The Lost Bells

That the Tumacacori Mission had a bell in each of the four arches

of its bell tower can be seen by an examination of the tower today. It must be remembered that in these missions the bells were not mounted to swing as are our church bells of the present time, but the bell was hung in a stationary position and the rope was attached to the clapper, so the bell was really tolled instead of being rung. A great beam of oak brought out of the Tumacacori Mountains west of the Mission, is still bedded in the walls of the tower at the top of each of the bell arches. The beam in the south arch shows the marks made in it by the rawhide rope by which the bell was hung. Since this was the front arch, and the bell hanging here would be the one most often seen from below, it is reasonable to believe that the largest bell hung in this arch. The person ringing the bells would have stood almost under this south bell, making the pull of the rope here slightly different from the others, probably imparting a slight swaying motion to the bell, which has caused the rope to chafe the beam. A bell hung in the east arch as is proven by the marks left by its ringing rope. The piers of the tower are so large that the rope running from the clapper of the east bell to the place where the ringer would stand in the south arch, cut into the corners of the piers between these two arches, so that today you can see six or eight deep marks, some of them almost a hand's breadth deep, which the rawhide rope cut into the bricks in sawing back and forth whenever this bell was rung. The same marks can be seen where the rope from the bell in the west arch cut into the corners of the southwest pier of the tower. If the bell in the north arch had always been rung by pulling its rope from the south arch, we might now have no evidence of its existence; but for some reason the ringers sometimes pulled its rope over through the west arch, probably while standing on the roof near that arch, and so the rope left its story on the northwest pier of the tower. It may be taken then as a fact that at one time four bells hung in the four arches of the tower.

Legend has it that, shortly after the abandonment of the mission, the bells were buried by the Indian neophytes to prevent their destruction or removal. I am inclined to believe this legend is based on facts. The bells were so heavy that their transfer further south would have been more or less of a problem; they were not needed further south either, for, owing to political disturbances in the period of 1820-1830, the church was having a hard time holding its own without expanding and building new churches which would need new bells; and I think the padres expected, when conditions grew more favorable, to return and re-establish the mission at Tumacacori. The legend was strengthened some years ago when a Mexican or Indian man turned up in Tucson with two bell clappers which he claimed belonged to the bells of Tumacacori. The people connected with the university made up a small purse and purchased them from the man and they are at present in the university museum. They have every appearance of being hand hammered and are crudely shaped. The man claimed that he had dug these up, knowing from the story which had been handed down through his family where they were buried. For some

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (Cont.)

reason, according to this man, the bells and clappers were not buried together, but if the family story was true, then he knew where the bells were.

He was offered a further sum if he would bring in the bells, but he reported afterward that either the story was wrong or he used the wrong landmarks, or some one else had removed the bells, for they were not where he had dug for them and he was unable to locate them.

One day, while we were at work on the repair of the mission, an old Mexican who had been born and raised at Tubac, which is about 3 miles away, came over to smoke and talk awhile and incidentally asked why, since we were fixing the mission up, we didn't hang one of the bells in the arches. Upon our explaining that, like the immortal Barkis, we were "willing" but did not know where the bells were, he said he knew where one of them was. He then went on to say that he had known from boyhood by the local tales, where the bell was buried, but had not dug for it until about 35 years ago when a rumor became current that it had been removed. Upon this, he and another man came down to the mission and sunk a pit about eight feet deep where the bell was supposed to be located, and found it. Having proved that it was still there, and having no reason to remove it, they filled the pit up "And," he very logically concluded, "if no one else has taken it away I suppose it is there yet." He said it was at the foot of the bell tower about three feet out from the wall and he would show us the exact spot some time when no one was around. Upon this offer I told him that if what he said proved to be true I would raise a fund of \$25 to repay him for his care in keeping the secret and delivering it to us.

On the strength of this story we sunk a pit about four feet square and eight feet deep on a spot he pointed out, but the dirt we took out had not the appearance of having been turned before and there was no bell at the bottom of the pit. We then set over about eight feet to the west and started another hole, thinking we would go down on this, run a drift between the bottom of the two pits and explore a little from the sides of both of them before we gave up. So far we have not had time to do this and I am unable at this time to either prove or disprove the old man's tale. This trenching was all done at odd hours and toward the end of the repair work I was working ten or more hours a day on the mission and had no extra time for this bell hunt. We did develop a lead which had us excited for a while. In the second pit, when I had gone down a foot or so, I uncovered a rotted stick standing vertically and axe marks on it proved it was not an old root of some bush which had grown there. The ground, too, had undoubtedly been turned once before. "Ah!" we cried, "the old man, when he found the bell, left a marker which he has forgotten to speak of." Needless to say, we worked quite earnestly after this and were soon down to a depth of about four feet when the shovel grated on a metal object!

It proved to be an old bucket.

I know now that a couple of the Alegria boys had prospected for this bell in that pit about 16 years ago, but, becoming discouraged, had laid this joke which took so long to come to light. It was a good joke on us. However, they had stopped at a depth of four or five feet and the old man was quite sure his pit was over his head when his shovel touched the bell. So this old prospect hole didn't go deep enough to prove that the bell is not there.

The Pilar

A very heavy rain during the rainy season sent a large amount of water down past the mission and the erosion caused by this exposed a brick wall about 21 feet south of the southeast corner of the bell tower.

We examined this wall with some trenches and found it was built of the 6 x 12 burned bricks (see Fig. 6, Plate I), was about 12 feet long and turned south at both ends but, owing to its badly broken condition after it turned the corners, we gave it up. The wall which we developed was beautifully finished on the south side with a hard plaster resembling cement, and the floor, which we found about two and a half feet lower than the entrance threshold of the door of the church, was finished with the same material.

We decided this could not be the wall of a house because it was of burned brick and no other house on the grounds has brick walls; the floor of this structure was too low to have been on the ground level and not low enough to have been part of an underground room; and a house here would have destroyed the view of the facade of the church as one approached from the south. We pitched upon the explanation that this was a reservoir in which water could be stored. A day or two later a Mexican who had been born and had lived all his life near the mission happened along and confirmed our supposition. He said he remembered when he was a small boy he had visited the mission many times and at that time two of these reservoirs, which the Mexicans call a pilar, were in evidence. They occupied the plaza just in front of the church, were not very far apart, and between them was the evidence of a round well which had been lined with burned brick. We never got time to check this story up with trenches, but I believe it is substantially correct. It is to be hoped that we will at some time later be able to uncover and reconstruct this portion of the plaza, as it will make a pleasing foreground to the pictures of the facade of the church.

The Bench

At another time we opened a trench at a point about 14 feet north and 25 feet east of the southeast corner of the tower. It must be remembered that a row of rooms ran east from the tower, and this point

we opened was the junction of a wall running north from the back, or north side of this row of rooms. We afterward found that the wall running north was the east wall of a row of rooms, so this corner which we went down on was a corner of the quadrangle.

Along the walls forming this corner we found a bench or seat formed of adobe bricks built up some 16 inches and then capped with the 6 x 12 burned bricks and then finished off with a beautiful hard, red plaster. On the floor level we found a floor of the 6x 12 burned brick, several square feet of which was still in good condition.

Here again we were unable to continue our work and make a thorough examination, but I am sure this was part of a seat which ran along the house walls on the inner side of the quadrangle, and on this very part which we were examining Padre Liberos may have sat down to rest after a weary day spent with his neophytes in the village and field and garden, and watched the unpacking of a newly arrived pack train from far to the south bringing in material and supplies which he needed so badly to continue his work. The brick floor at the foot of the bench is a part of the corridor floor and one looked across it, through the sweeping arches into the sunshine of the quadrangle and felt that here was a mass of buildings, built at an immense expense of time and labor, but fit to endure for centuries. Little did he think as he listened to the clatter and jingle of the harness and the chatter of the Mexican and Indian attendants, that a scant hundred years later we would be opening trenches here in the debris of his walls in an attempt to discover the use of the various buildings!

Assembling the Materials

The actual work of rebuilding the walls and restoring the roof went along very slowly. The walls were so thick that it took a surprising amount of time and material to make such of a showing. At first we tried out the method of carrying all material up by hand, but this consumed so much time that we afterward put in a rope and pulley. We had to work out a special method of handling the cornice brick when we came to that point in the construction. It will be seen by a study of the cross-section sketch of the nave given in Plate II, that a row of these bricks come just under the roof beams on the inside of the church.

These cornice bricks, you will remember, were about 13 x 22 inches in size. We found that the simple method of laying the brick flat, covering it with mortar and then turning it up into place, would not work at all. The common run of mortar was too stiff to work down between the bricks if we stood them in position and then tried to fill the cracks. We next mixed the mortar to the consistency of a thin slop and tried pouring it between the bricks after they were set in position. Being so thin, the mortar promptly ran out of the crack at both ends of

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

the brick. We finally found that two men could work best on this job. The mason would set up the fresh brick at the proper distance. The helper then held a board over the crack at the back end and a special mould cut to fit the front curve, over the front end of the crack, while the mason upset half a bucket of mortar into the crack. In less than half a minute the mortar was set enough to allow the boards to be removed and the process could be repeated on the next brick. Since each of the bricks had to be lifted, carried, set and lined up, separately, it will be readily understood that a good bit of time was consumed in laying these cornices.

After laying the inner cornice, we stopped the brick work two or three days until we could get the beams up on the walls. These beams do not rest directly upon the brick cornice but upon some one inch board plates which we put upon top of the bricks. Our idea in this was that if a beam warped or twisted after being laid, these plates would distribute any strain from falling directly on the noses of the cornice bricks and breaking them off.

The beams were unequal in size, running from about nine to about twelve inches square. The problem raised by this was whether we were to let the bottoms of the beams remain even and let the unevenness all fall along the top line of the beams, or whether to cut some sockets for the large beams and distribute the unevenness between the top and bottom lines. We decided on the first method and it proved very satisfactory. The bottoms of the beams fall evenly along the line of the noses of the brick cornice or moulding and the irregularities of the tops are not noticeable because there is no regular or even line there to force a comparison.

We did another good stroke in the distribution of these beams when we began at the entrance and of the nave with the smallest and ended at the sanctuary end with the largest, grading them larger and larger as we went forward.

The idea in doing this was that the visitor will almost invariably examine the roof construction as soon as he enters the church and will not pay attention to its details afterward. Now the nave is 73 feet long and this method of putting the larger beams at the far end makes all of them appear about the same size, while if we had put in any small beams toward the front of the nave, at that distance they would have had a sort of pipe-stem effect.

We had decided as soon as we hewed the beams out that they looked entirely too fresh and new for our purpose, so we looked around for some method of aging them in the wood, so to speak. For this purpose we used common crude oil, cutting it to the shade we desired with kerosene. We did not dare apply this stain until the beams were up on the wall because it did not dry very fast and we were afraid the handling

and the hoisting tackle might leave marks on them. After the beams were on the wall and before we had built the bricks in between them to hold them solidly in place, we applied the stain. The work of this was not hard, being simply a matter of brushing the stain on with long handled brushes, rolling the beam a quarter turn at a time until we had covered all four sides; but the mental strain of deciding out in the bright white sunlight under an Arizona sky what shade to apply to give the best result in the semi-dark interior of the church under the completed roof, nearly wrecked our force. We worked one beam over three times before we thought we had the shade and then after painting four or five beams that shade, decided to darken it a little. The boys considered this 'piddling' all foolishness, but the result when the roof was completed is fine.

We set these beams three feet apart on centers. We did not need such heavy beams nor need them so close together to support the weight we had to carry, but at this point the roof is a restoration of the original which did carry heavy construction above it.

Having the beams stained and finally bedded down, we next set the roof rafters above them. The roof must have a pitch as low as we could give it and get drainage, for it must not show over the low parapets of the side walls of the nave. To get this result we used 2 x 12 timber laid on edge sawing them to a ten inch fall in a nine foot run. One of these rafters was set on top of each beam, and, since the tops of the beams were uneven, each in itself as well as with its next neighbor, it cost us two or three days' work to get the rafters lined up.

Having our beams and rafters in position, we were then ready to lay our ocotillos. These had been cut into fairly straight sticks 38 inches long, and were laid from one beam to the next on top of the beams between the 2 x 12 rafters. We did not lay these ocotillos straight with the longer axis of the nave, but laid those in the first row, that is between the first beams, slanting to the right, the next row slanting to the left, and so on. Viewed from the floor of the church, this gives a pleasing effect, and we have good precedent in that several of the old churches are so roofed.

The intention was to use the ocotillos alone for this ceiling effect, but when we came to put them in, we found that if we laid them two layers deep, as we had decided to do, one might, in places, still be able to see up between them and discover the modern board roof we were going to put on the rafters above. This caused us some worry but we solved the difficulty by going out to one of the neighbors and buying a ton of hay which we put on top of the ocotillos. Some showers came along at an opportune time and settled this hay down close before we put the roof on, so the reconstruction from the under side of the roof is perfect.

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

Finishing the roof was simply a matter of nailing 1 x 12 boards on the rafters and covering them with a good grade of roofing paper.

While we were working with the beams and ocotillos, the walls of the nave had been brought up to the original height and the parapets had been finished off with a course of cornice brick. The top of this parapet was flushed over with a mixture of lime and cement to prevent erosion and this was carried down the back of the parapet to the gutter.

The cornice brick around the sanctuary walls, which are still in place, were tilted outward so that the rain drains off over the nose of the bricks and follows the face of the cornice down, causing erosion of the wall just under the cornice. We were careful to drain our parapet walls to the inside so that the rain will not run outward over the nose of the bricks but back and down the parapet into the gutter.

The gutters were made of a rubble of lime, cement and rocks. This was poured into place and shaped with trowels and a half round wooden float which we made for the purpose. We took great care to make the joint between the wooden roof construction and the cement gutters absolutely water tight. For this purpose we used a special plastic roof cement which is laid with a trowel. We used this plastic cement under the roofing paper, on top of the paper, and on top of a piece of quarter round moulding which we nailed into the angle where the paper and cement meet. I think the roof will leak any other place before it leaks at that joint.

As is stated on page 10 the roof drainage was handled by means of 18 downspouts. Nine of these took care of the water from the roof of the nave, five on the west side and four on the east side. These drains were all in bad condition and we had to repair what was left of them as well as extend them up over the new wall which we had built. They were originally made of lime but we used cement for restoring them. The water comes into these drains from the bottom of the gutter by means of openings just under the cornice of the parapet as is shown in the detailed drawing of the roof and parapet construction in Plate II.

In repairing these drains we opened the debris lying against the base of the west wall of the church to get at the foot of them and found a rock abutment wall running along the base of the church wall. The drains ran down to this and the water must have run on over this abutment wall and made its own path away from the church as we could find no signs of open drains on the original ground level. The rock abutment is not an integral part of the church wall but has been built after the church wall was completed and plastered. It is carried back along the west side of the church and the north and west sides of the cemetery. Evidently, since the west is the high side of the building, the water coming down off the mesa has given the padres some concern for fear it would wash the walls on that side and they have taken this means to

protect their construction.

Rebuilding the pediment was the most interesting single piece of work we did. The pediment was broken off at the line of the lintel which crosses the facade over the choir loft window. We had two pictures to work from which were taken before the fall of the original pediment. One of these was a direct front view and the other was taken from a point about 200 feet southwest of the building. These views are published in a recent book on Mission Architecture by Mr. Duell, as having been taken in 1880, but this is a mistake. The pictures were taken by Mr. George Roskrue, of Tucson, on July 3, 1889. I was glad to get this point cleared up very recently, for two interior pictures taken at the same time, show no beams over the nave. Now two men have assured me they saw some of the roof beams in position, one in 1882 and the other in 1886 or 1887. If the Roskrue pictures had been taken in 1880 they would have proved the men to be in error, but since they were taken in 1889, not only does the evidence of the two visitors stand, but we can date the fall or removal of the last beams of the roof of the nave between 1886 and 1889.

We were able to locate the footings of the gables which are attached to the face of the pediment quite accurately by the brick sockets which still remained in the lime plaster on top of the lintel. The diamond-shaped figure above the ends of these gables is in its proper place but we will not know until next July, when we can compare the shadows of the real diamond with the one in the picture, whether or not it projects far enough from the wall. If we find it is not far enough out, we can build it up with plaster.

To get the curve line of the pediment I sat at the point where the Roskrue picture was taken and had the boys experiment with different lengths of sticks, swinging them in the plane of the proposed pediment and using the center of the line across the shoulders of the facade as the center of the pediment, until the end of the stick covered the proper bricks on the tower in the background. We then used this stick as a radius in building the pediment.

The ball on top of the pediment, which carries a cross, is partly original. In the excavations a couple of years ago, when we cleaned the debris out of the nave of the church, we found about a quarter of this ball. It had a socket running from top to bottom, and when I saw it I remembered a plate in Rinton's Handbook to Arizona, 1878, made from an artist's drawing, which showed a cross mounted in a ball on top of the facade. So this portion of the ball is again resting in its original place.

Minor Repairs

The stairs in the tower, described on page 9, are completely a

REPAIR & RESTORATION WORK AT TUMACACORI IN 1921 (CONT.)

restoration of ours. Vandals had not only torn out the old steps, but had dug several wagon loads of material out and thrown it back into the baptistery. Evidently they thought the treasure was buried under the steps.

We made no attempt to put these steps in with accurate workmanship. The effect we were striving for was the old stairs after some use and a hundred years of abandonment but without the touch of a vandal pick. That we succeeded pretty well is shown by the fact that more than half the visitors who had not seen the mission before we started our work, thought the steps were the original ones, two weeks after we had completed them.

A large hole in the back wall of the sanctuary was closed up. Many visitors thought this hole was originally a window. I knew it was not for it showed no marks of lintels to support the wall over the opening, and, although the padres were sometimes faulty in their construction, they would not put an opening in the back wall of the church directly over the high altar where it would make a glare of light to blind the eyes of the neophytes in the nave as they tried to see the ceremonies in the sanctuary. The Mexican who had visited the mission in the 80's told me there was a niche for a statue there over the high altar, and I am inclined to think his memory is correct. Vandals probably dug through the wall back of the niche looking for treasure.

The lighting of the sanctuary was wonderfully improved by closing this hole. I had many times tried to imagine what the interior would look like with a roof over the nave and this hole in the sanctuary wall stopped, but the effect was better than I had imagined.

There are five windows in the nave of the church, two on each side and one in the choir loft over the entrance. These windows light a space 17 feet wide by 73 feet long. There are two windows in the sanctuary which light a space 17 feet square. It will be seen at once, then, that the sanctuary is better lighted than the nave, and this is as it should be. Furthermore, the sanctuary windows, being higher up in the walls, give a sort of overhead lighting which must have brought out the decorations on and around the high altar. The quiet, the restfulness, the coolness, and the softened light of the nave, tended to center the attention down through the great arch, to the high altar in the sanctuary.

Tumacacori is not the most spectacular mission in this chain which Padre Kino founded, but its interior was well designed and very effective.

CONCLUSION

I wish to say in conclusion that the repair and restoration work at the Tumacacori Mission is by no means finished. The work will be

carried on as funds permit until we have this monument in condition to stand the erosion of the elements without serious deterioration. It is to be hoped that before many years we will be able to keep a custodian in charge under full pay, who can live at the monument and prevent vandalism and give the information to visitors which they desire so much.

MUSEUM CIRCULATION By Frank Pinkley, Supt.

Because our proposed museum at Tumacacori National Monument is a comparatively small one, and because we have some individual problems in that installation, we have had some very interesting discussions regarding the plan. The building is planned around a patio and we want to open the rooms out into the loggia so that visitors will go into a room, turn to the right, go anti-clockwise around the room and come out by the door by which they entered, go along the loggia to the next room and repeat the process there. The other method is to open the rooms one into the other in series by connecting doorways. We do not like this method so well because few visitors will circle a room which has an outlet at the far end. We have argued that the visitors will enter room 1, turn to the right, go down the right hand wall to the far end, and will then go through the doorway into room 2. Since, in an archaeological or historical museum the material on display must be presented in some sequence from case to case, wall to wall, and room to room, it is pretty clear that this trick of passing down the right hand side of your rooms and leaving the left side unnoticed is going to wreck your chances of getting your material examined in the sequence in which you had planned.

I wish here to quote from pages 105-06-07 and 108 of Problems of Installation in Museums of Art, by Arthur W. Melton, Instructor in Psychology in Yale University. This is one of the Publications of The American Association of Museums, New Series No. 14, Washington, D. C., 1935.

"As previously mentioned, we have records of the exact routes taken by the visitors in going through the Flemish-Dutch gallery. In Figure 21 we have shown the types of routes taken by those visitors who turned to the right on entering the gallery, and the frequency of occurrence of each type. In Figure 22 we have given a similar schematic presentation of the routes of the visitors who turned to the left on entering the gallery. In both instances the representation is of the records of Sunday and week day visitors observed during the first installation of the paintings, and all proportions are based on the total number of visitors observed, regardless of the direction of the first turn.

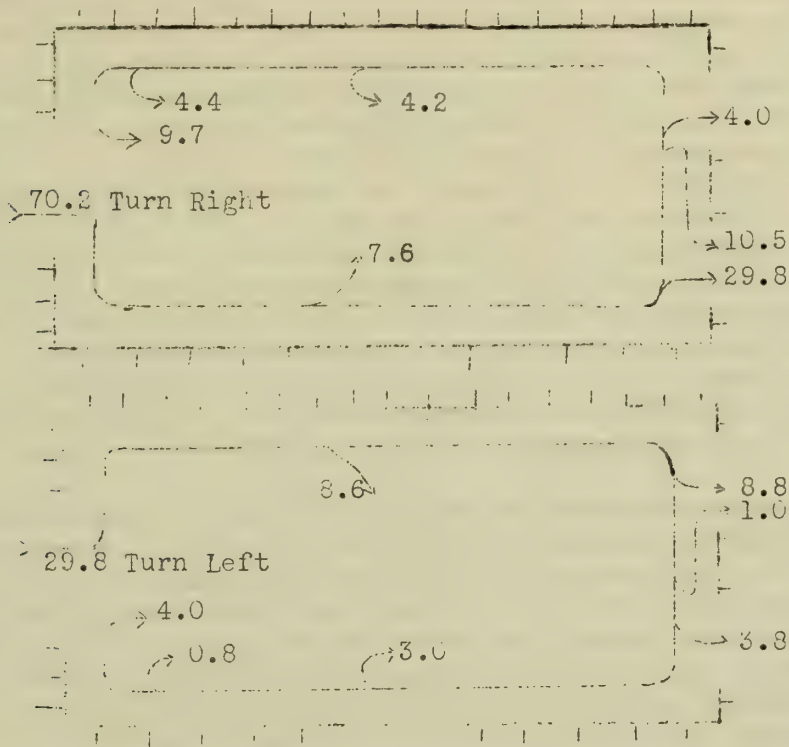


Figure 22 from "Publications of the American Association of Museums"
1935 Edition

"As shown in Figure 21, 70.2 of every one hundred visitors turned to the right on entering the gallery. Of this number 7.6 turned away from the right walls and passed one or more of the sections of the left walls before reaching the far end of the gallery, whereas the remainder (62.6) continued to follow the right walls until they reached the end of the gallery. Some 29.8 of the 62.6 visitors then left the gallery through the right exit without having looked at the paintings on the end wall. Another large group, composed of 14.5 visitors, passed the end wall before leaving the gallery either by the right exit (10.5) or the left exit (4.0). The remainder of the original group (18.3) managed to escape the siphoning effect of the exits and passed before one or more sections of the left walls. However 4.2 of the 18.3 visitors passed only one section before returning to the exit, another group of 4.4 visitors passed only two sections before returning to the exit, and only 9.7 of the original group of 70.3 visitors made a complete circuit of the gallery. The facts in Figure 22 are essentially similar to those presented in Figure 21, except for the reversal of the direction in which the visitors were moving.

"If we forget the differences in the particular walls passed by the visitors and pool the routes according to whether the visitors passed only the side of the gallery toward which they turned on entering, whether they passed that side and the end wall, or whether they passed that side, the end wall, and some part of the walls on the opposite side of the gallery, we find, as shown in Table XVII that 38.6 per cent of the visitors during the first installation passed only the side of the gallery toward which they turned when entering, 19.3 per cent passed only that side and the end wall, 12.4 per cent passed that side, the end wall, and at least half of the opposite side of the gallery, and 13.7 made a complete circuit of the gallery. Only 16.2 per cent of the visitors passed from one side of the gallery to the other before having passed the objects along the entire first side. The data on the visitors observed during the second and third installations confirm the gross relationships presented.

"The most outstanding characteristic was the tendency for visitors to leave the gallery through one of the exits before they had passed any of the objects located on the opposite side of the gallery from that toward which they turned on entering. During the three installations 57.9 per cent of the visitors, 60.3 per cent of the visitors, and 69.0 per cent of the visitors did just that. Moreover, the visitors often failed to traverse the entire length of the walls on the opposite side of the gallery before returning to the exit even though they succeeded in passing the exits when first offered the choice between the remainder of the Flemish-Dutch gallery and the objects in the next gallery."

It seems to us these figures cry out against more than one entrance and exit in small museum rooms. Why let 69 per cent of your visitors walk out at the far end of your room without passing before all your exhibits? Why not bring them back up that other side to the door by which they entered and let them see all the exhibits?

Do you think I am unnecessarily importunate on this matter of circulation of unguided visitors when it is our well known basic policy to guide all our visitors at Tumacacori? My reason is that I feel very sure that all the factors which operate to split individuals off the unguided parties will also be operating, to a much less degree it is true, but still operating, on the guided party. If 60 per cent of the unguided visitors will go through into the next room without seeing all we have in this room, that open doorway at the other end of this room will pull a certain per cent of my guided party away into the next room before I am ready for them to go there. By shutting the door I eliminate all these factors and bring my guided party around the room to the door by which we entered the room without losing a member. For similar

TUMACACORI MUSEUM CIRCULATION (CONT.)

reasons we want the Tumacacori rooms laid out for a right hand circulation notwithstanding the fact that we expect to guide our parties. It will be a little easier to guide to the right than to the left and, on those occasions when our guide service breaks down, the museum will be laid out properly for unguided parties.

On page 137-138 of the above quoted report we find the following:

"Aside from the question of whether or not a particular object will be seen more often in this position or in that position, there are in most museums of today expressions of the belief that the most perfect understanding comes from viewing objects or reading labels in some orderly sequence. Although this belief will probably undergo extensive experimental criticism, it stands as a reasonable educational postulate. We know from our studies that visitors are prone to follow the walls of a gallery very closely, that they do not shift from one wall to another and then back to the first in more than 10 per cent to 15 per cent of the cases. This normal regularity is a boon to those who would have visitors see exhibits in a specified sequence. But, assuming regularity, the order in which the objects are seen is "correct" for one group of visitors and the reverse of "correct" for another group of visitors. The direction of the normal movement of the majority of visitors through a sequence has usually been assumed to be from left to right. Thus, the most primitive paintings in the Flemish-Dutch gallery were placed to the left of the entrance, and the most recent paintings were placed to the right of the entrance. In this gallery only one visitor in every four followed the required route, because visitors have the habit of turning to the right on entering a gallery and will do it in 75 percent of the cases unless the habit is over ridden by some more potent determinant of behaviour."

Knowing this to be true, why lay out a left hand circulation in a museum?

We want a right hand circulation in individual rooms as against a left hand circulation in rooms joined in series.

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- 540 - do. 1904
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- 542 - do. 1917
- 543 - do. 1918
- 544 - do. 1923
- 545 - do. 1929
- 546 - do. 1930
- 547 - 4th Annual Report, Bureau of American Ethnology. 1882-83
Pictographs of the North American Indians - Garrick Mallory
Pottery of the Ancient Pueblos - William H. Holmes
The Ancient Pottery of the Mississippi Valley - William H. Holmes
Origin and Development of Form and Decoration in Ceramic Art
- William H. Holmes
A Study of Pueblo Pottery as Illustrative of Zuni Cluture Growth
- Frank H. Cushing
- 548 - U. S. Geological Survey, Monograph #48 - Status of the Mezosoic
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- 549 - The Navajo Indians by Mary R. and Dane Coolidge
- 550 - Zuni Folk Tales - Frank H. Cushing
- 551 - Directions for Collecting Informations and Specimens for Physical
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- 553 - Hawikuh Bone Work - F. W. Hodge. Museum of the American Indian,
Indian Notes and Monographs Vol. III No. 3
- 554 - The Papago Ceremony of Vikita by E. H. Davis. Museum of the Ameri-
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- 555 - The Spread of Aboriginal Man to North America, by Ernst Antevs
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- 557 - Excavations in Bolivia, by W. C. Bennett. American Museum of Natural History, Anthropological Papers, Vol. XXXV, Part 4.
- 558 - Discussion Concerning Peyote, Hearing of the Sub-Committee on Appropriations for the Bureau of Indian Affairs, 1935.
- 559 - Designs on the Prehistoric Pottery of Arizona, by Eleanor P. Clark, Social Science Bulletin #9, University of Arizona.
- 560.- The Use of Rock Crystal, by Palaeolithic Man, George Grant MacCurdy Proceedings of the National Academy of Sciences, 1931.
- 561 - Essays in Anthropology, University of California Press, 1936 (A. L. Kroeber Festschrift)
- 562 - Life Histories of North American Gallinaceous Birds, Arthur C. Bent, U. S. National Museum, Bulletin 162.
- 563 - Food and Economic Relations of the North American Grebes, Alexander Wetmore. USDA, Department Bulletin 1196.
- 564 - How to Attract Birds - Northeastern United States - W. L. McAtee, USDA, Farmer's Bulletin #621.
- 565 - The Colorado Museum of Natural History, Popular Series #1 - (Photos of Exhibits and Discussion of the Policies of the Museum)
- 566 - The Life Histories and Ecology of the Jack Rabbits in Arizona, by C. T. Vorhies and W. P. Taylor, University of Arizona, Technical Bulletin #49.
- 567 - Mammals of New Mexico, Vernon Bailey. USDA, North American Fauna #53
- 568 - Status of the Prong Horned Antelope, by Edward W. Nelson, USDA, Department Bulletin #1346.
- 569 - On the Reptilia of the Kirtland Formation of New Mexico by Charles W. Gilmore, Proceedings of the U. S. National Museum #2978.
- 570 - A Study of the Teiid Lizards of the Genus Cnemidorphus, by Charles E. Bent. U. S. National Museum, Bulletin 154.
- 571 - The Making of a Scientific Collection of Reptiles and Amphibians, by Joseph R. Slevin. Proceedings of the California Academy of Sciences, Vol. XVI No. 9
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- 572 - The Kaiparowitz Region, by H. E. Gregory and R. C. Moore USGS Professional Paper #164.
- 573 - The Navajo Country - H. E. Gregory, USGS Water Supply Paper, #380.
- 574 - The San Juan Canyon, Southeastern Utah, Hugh D. Miser. USGS Water Supply Paper #538.
- 575 - Vegetation of the Alpine Regions in Colorado, Memoirs of the National Academy of Sciences, Vol. XIX No. 3.
- 576 - The sub-species of *Crotalus lepidus*, by Howard K. Gloyd. Occasional Papers of the University of Michigan #337.
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- 579 - Report of Explorations of a route for the Pacific Railroad near the 32nd Parrellel of Latitude, from the Red River to the Rio Grande. Captain John R. Pope. 1855.
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- 582 - The North American Species of *Scutellaria*, by E. C. Leonard Contributions from the U. S. National Herbarium, Vol. XXII Part 10.
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RUMINATIONS

I was startled the other day to get the news that Park Supervisor Gabriel Sovulewski had reached the age of retirement and was no longer on the active list. It doesn't seem like quite the same Park Service if Mr. Sovulewski is not over there in the Yosemite. I first met him when we had that conference of Superintendents over in Yosemite in 1921, I think it was. He has been an inspiration to me through all the years since; just knowing he was there on the job, doing the work he loved to do and doing it as no other man could.

One time when he and I were out together I well remember his saying that he cared not whether they put a monument over his grave after he was gone; that his real monument was up there on the side walls of the Yosemite Valley in the miles and miles of beautiful trails which visitors would be using for generations to come. I thought of this statement of his when I was reading this section from his letter:

"We forget that trail construction is more common sense than engineering. Thorough knowledge of the country, love for that kind of work, a good, cool head with common sense, instinct of a dog to know which way to get home and last but not least, disregard for the time of day, are the principal requisites.

"A man with tripod, transit and level has no business on trails. Personally I would consider him a nuisance. We put too much stress on technical knowledge in simple matters where only good common sense should prevail. In my experience in exploring, wild animals in many cases solved numerous difficult problems for me. Good, experienced engineers will see the point and agree with me. We are handicapped so much by inexperienced technical knowledge that it takes sometimes ten men to decide whether a certain shrub or tree should be taken out where a dozen could be taken out without injury to the landscape or nature. But the trouble goes further, we have a splendid lot of men in the Park Service, but their initiative is destroyed by details of a technical nature. Young technicians are sent to parks and tie the hands of Superintendents on projects on which they probably spent many sleepless nights. Our single-track scientific men bring up so many subjects, I have no doubt they give headaches not only to Superintendents but reach as high as the Director. I admire very much the patience of the Superintendents and the Director's diplomacy. To know their positions you cannot help but sympathize with every Superintendent and every man that holds an executive position. They have to be technicians of diplomacy."

Mr. Sovulewski has put his experienced finger on a thing that worries every Superintendent; we need more men of the type he is thinking

RUMINATIONS (CONT.)


of to properly balance our organization.

Another thing I admired him for was that his park never became common-place to him. At that time I was a youngster with only eighteen or nineteen years of service behind me and he had served some twenty-six or twenty-seven years, yet he never grew tired of his work and he loved his park. It was he of whom I was speaking in another place some time ago who took me on a geological trip on the floor of the Valley which wound up at the foot of Capitan. We sat there three or four minutes; wordless; drinking it all in; and then he said something I've never forgotten: "You can talk all you want to about how this Valley was formed but there is where your science ends and Almighty God begins!" And after fifteen years of ruminating on it, I still can't see how you can improve on that statement.

May he be spared these many years yet to give us of his wisdom and experience.

Cordially,

The Boss





SOUTHWESTERN MONUMENTS

NOVEMBER 1936, REPORT

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SOUTHWESTERN MONUMENTS PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona; Frank Pinkley, Superintendent; Hugh M. Miller, Assistant Superintendent; James Luther, Chief Clerk; J. H. Tovrea, Assistant Engineer; Robert H. Rose, Assistant Park Naturalist; Charlie R. Steen, Junior Park Naturalist; Millard Singerman, Clerk-Stenographer; Luis Gastellum and W. H. Sharpe, ECW Clerks.

FIELD STATIONS:

1. Arches - Moab, Utah. J. M. Turnbow, Custodian.
 2. Aztec Ruins - Aztec, New Mexico. Thomas C. Miller, Custodian.
 3. Bandelier - Santa Fe, New Mexico. Jerome Hendron, Acting Custodian.
 4. Canyon de Chelly - Chin Lee, Arizona. Johnwill Faris, Custodian.
 5. Capulin Mountain - Capulin, New Mexico. Homer J. Farr, Custodian.
 6. Casa Grande - Coolidge, Arizona. W. J. Winter, Custodian;
J. Donald Erskine, Ranger.
 7. Chaco Canyon - Crownpoint, New Mexico. Thomas C. Miller, Custodian.
 8. Chiricahua - Willcox, Arizona. Frank L. Fish, Custodian;
Homer Bennett and Bronson Harris, CCC guides.
 9. El Morro - Ramah, New Mexico. Robert R. Budlong, Custodian.
 10. Gila Cliff Dwellings - Cliff, New Mexico. No Custodian.
 11. Gran Quivira - Gran Quivira, New Mexico. George L. Boundey, Custodian.
 12. Hovenweep - Cortez, Colorado. No Custodian.
 13. Montezuma Castle - Camp Verde, Arizona. Martin L. Jackson, Custodian;
Russell Farmer, Ranger.
 14. Natural Bridges - Blanding, Utah. Zeke Johnson, Custodian.
 15. Navajo - Kayenta, Arizona. John Wetherill, Custodian.
 16. Pipe Spring - Moccasin, Arizona. Leonard Heaton, Acting Custodian.
 17. Rainbow Bridge - Rainbow Lodge, Arizona. No Custodian.
 18. Saguaro - Tucson, Arizona. No Custodian.
 19. Sunset Crater - Flagstaff, Arizona. J. W. Brewer, In Charge.
 20. Tonto - Roosevelt, Arizona. James D. Harritt, In Charge.
 21. Tumacacori - Box 2225, Tucson, Arizona. Louis R. Caywood, Custodian.
 22. Walnut Canyon - Flagstaff, Arizona. Milton Wetherill, In Charge.
 23. White Sands - Alamogordo, New Mexico. Tom Charles, Custodian.
 24. Wupatki - Flagstaff, Arizona. J. W. Brewer, Ranger.
 25. Yucca House - Cortez, Colorado. No Custodian.
-

CONDENSED REPORT

IN WHICH WE GIVE THE HIGH LIGHTS OF THE MONTH

Coolidge, Arizona
December 1, 1936.

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for November:

<u>TRAVEL</u>	<u>November, 1936</u>	<u>November, 1935</u>	<u>November, 1934</u>
Aztec Ruins	654	409	666
Bandelier	518	528	632
Capulin Mountain	600	900	1,800
Casa Grande	2,909	2,165	2,389
Chaco Canyon	585	528	492
Canyon de Chelly	45	30	62
Chiricahua	330	175	---
El Morro	78	45	250
Gran Quivira	290	340	299
Montezuma Castle	353	445	1,299
Natural Bridges	---	124	---
Navajo	---	---	---
Pipe Spring	180	619	361
Saguaro	742	---	---
Sunset Crater	205	96	---
Tonto	233	396	421
Tumacacori	1,194	1,141	876
Walnut Canyon	353	534	272
Wupatki	107	93	79
White Sands	4,907	---	---
Actual Reported			
Registration	14,283	10,452	9,878

Although the travel count for November shows a gain of nearly four thousand over the corresponding month last year, two monuments are included for which there were no figures in 1935. The two are White Sands and Saguaro; when the figures for these two are subtracted from the total a decided decrease in traffic is noted. Generally bad road conditions on the plateau very likely have kept visitors from some of the northern monuments, but, as was suggested two months ago, travel to the monuments has apparently reached a peak and is leveling off. Casa Grande shows a gain of nearly 800 over last year's figures and Superintendent Pinkley believes that tourist traffic in the southern monuments is about at pre-depression heights once more.

CONDENSED REPORT (CONT.)

021 GENERAL WEATHER CONDITIONS

Jupiter Pluvius has been active all over the Southwest during November. None of the monuments have been snowed in yet but several expect heavy falls of snow at any time. Secondary roads have been very rough and muddy due to falls of light snow and rain. Only from Capulin Mountain is there a gloomy weather outlook. Northeastern New Mexico is experiencing one of the driest autumns in thirty years; range conditions are very bad with a consequent hardship on the wildlife.

120 PARK INSPECTIONS

121 SUPERINTENDENT

White Sands

123 NATIONAL PARK OFFICERS

White Sands - Frank Kittredge, Charles Richey, Jim Hamilton, A. E. Underhill.

Aztec Ruins - Charles Richey, Landscape Architect Carter, Jim Hamilton, Jerome Hendron, and John Ewers.

Chaco Canyon - Jim Hamilton, Jerome Hendron, Erik Reed, John Veale, and John Ewers.

Bandelier - Farrell MacLean, Andrew Clark, Fred M. Strieby, Clifford London, Frank Kittredge, A. E. Underhill, Jim Hamilton, Ansel Hall, J. C. Ewers, Hugh Miller, D. Sutton, Lorimer Skidmore, and Charles Gable.

Tumacacori - Lyle Bennett, Clinton Rose, Ward Yeager, Jack Diehl, J. H. Tovrea.

Chiricahua - Charles Richey, John H. Diehl, J. H. Tovrea.

El Morro - Charlie Steen and Walter Scott

Pipe Spring - Al Kuehl

Montezuma Castle - Jack Diehl and J. H. Tovrea.

Wupatki - Jim Hamilton, Jack Diehl, and J. H. Tovrea.

200 MAINTENANCE, ETC.

230 NEW CONSTRUCTION

White Sands - New Utility Building completed; the comfort station is about 90% complete and foundations poured for the residence and administration building.

Bandelier ECW - Quarters No. 3 is nearly complete

Trees and shrubs have been transplanted

Signs for Chiricahua National Monument completed and shipped.

One fire ladder completed and erected.

A large quantity of stone suitable for flagging was obtained from the adjoining National Forest.

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CONDENSED REPORT (CONT.)

230 NEW CONSTRUCTION (CONT.)

Casa Grande - Surfacing of the entrance road and parking area is nearly complete.

Chiricahua ECW - Echo Point-Rhyolite Canyon trail connection was complete

1350 feet of Massai Point-Balanced rock trail was constructed

5000 feet of present trails were maintained

Rock slide on Massai Point road cleared away

Headquarters ranger station 90% complete

Equipment shed 85% complete

Capulin - Road up the mountain is being worked in an effort to clear up gravel which has washed or blown down the slope.

Walnut Canyon - Trail improvements are being made

300 COOPERATING ACTIVITIES OF OTHER AGENCIES

GOVERNMENT AGENCIES

Chaco Canyon - Soil Conservation Service has about 50% of the dyke and revetment work complete.

320 NON-GOVERNMENT AGENCIES

Chaco Canyon - The School of American Research has continued work on the small ruin known as Layit Kin and has constructed several hogans as quarters for the staff.

400 FLORA, FAUNA, ETC.

420 MUSEUM SERVICE

Tumacacori - The custodian is constructing an old type arrastra as a graphic exhibit.

430 ARCHEOLOGY

Wupatki - Clean-up of room #7 of the Wupatki Pueblo is practically complete and the report of the work is being written.

470 FAUNA

Capulin Mountain - Apparently because of the very dry season and the lack of grass there are very few deer and elk in the vicinity of the Monument. Normally these animals are abundant in the region. The porcupines on the Monument are also continuing their depredations on the pines. Some control measures may be necessary to save the trees.

CONDENSED REPORT (CONT.)

600 PROTECTION

630 ACCIDENTS

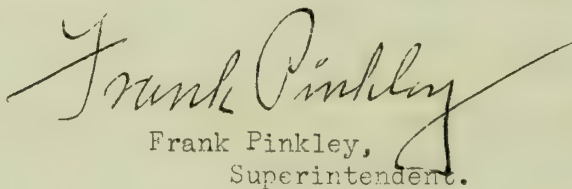
Chaco Canyon - A five-year old Navajo was accidentally shot to death one mile north of the Monument boundary. The Custodian, at the request of the child's parents buried the boy and notified the proper Indian Service authorities.

MISCELLANEOUS

MAIL COUNT

Incoming:		
Government	1,372	
Personal	925	
Total incoming		2,297
Outgoing:		
Government only	1,441	1,441
Telegrams:		
Incoming	44	
Incoming	34	
Total telegrams		78
Grand Total		3,806

Cordially,


Frank Pinkley,
Superintendent.

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CONDENSED REPORT (CONT.)

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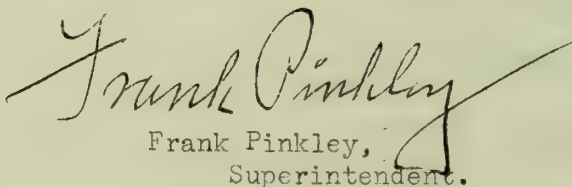
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FIELD REPORTS

FROM THE MEN ON THE JOB

TUMACACORI

By Louis R. Caywood, Custodian

Visitor travel has finally begun its upward trend showing that the winter rush has descended upon Southern Arizona from all over the United States and some foreign countries. Thirty-seven states, Alaska, Canada, Nova Scotia, Mexico, England, Australia, and Italy were represented on the visitor register.

In all 1109 visitors were contacted and shown through the Mission, while 85 additional used the facilities of the Monument, making a total of 1194 visitors. This number, by the way, is larger than any November count in the history of the Monument. November, 1935, shows 1141.

Weather conditions have been good with no cold spells to date.. October 24 was windy and rainy. November 22 and 23 brought rain which is much needed and wanted by the cattlemen. However, from now on it will probably be cold because of the recent rains and storms here as well as other sections of the country.

National Park Service visitors were rather few this month. On October 25 Mr. and Mrs. Lyle Bennett, Clinton Rose and Ward Yeager were visitors. On November 21 J. H. Tovrea and Jack Diehl spent some time making a topographical survey of the area where the new museum is to be built.

In October Dr. Lockwood of the University of Arizona and Dr. and Mrs. Nichol Smith of Oxford University, England, were interested visitors. On November 23 Dr. and Mrs. Chas. Vorhies of the University of Arizona Agricultural Department took a number of pictures and Dr. Vorhies asked if I had seen any of the spotted bats.

Fifty-one CCC boys from Camp F-64-A, Nogales, Arizona, were here on an educational trip. All of these boys were from Texas and they said they had a few old missions in that state also.

Thirty-six Indians from the Phoenix Indian School traveled down in an open truck to see the mission and arrived here in a rainstorm. They presented quite a spectacle wrapped in their blankets and everyone was "Chief Rain-in-the-face". They said they were returning by way of San Xavier Mission that day.

Jack Winter's eulogy on the owl brings to mind that "Way back when"

TUMACACORI (CONT.)

I remember that for about ten days there was only one owl in the ruins. He made a terrible racket every night until finally a mate made its appearance. I was telling one of the Coolidge residents about it and he said that he had shot an owl that was trying to steal his chickens about the time this one disappeared. So that might have been the ignominious fate of one of them. Another time Mr. John Fast, who was staying at the Vah-Ki Inn, told me that he had found a dead owl while setting up some bird traps. So, as Jack Winter says, we wonder how many times the ruins have changed residents since the first pair were seen there many years ago. Continuing with the dead owl that Mr. Fast found -- He asked me if I wanted the corpse and I told him I thought it might be a good idea to clean up the bones and keep them in the museum work room for identification purposes. So Mr. Fast kindly gathered up the remains and brought them over in a box. This was placed at the rear door of the office. When I looked for them to take them down to the work room, they were gone. I felt bad about it and finally decided that Teddy might know more about this matter. Sure enough he did. In fact, he had burned them!

The first Gambel Sparrows were seen here on October 15. But there is still too much natural feed for them to be taken in the traps.

After telling several thousand visitors how an old Spanish arrastra worked and knowing that some of them did not comprehend, I have finally begun the construction of a small one which will be much better. I have been thinking it might be well to set up the old molino de trigo and borrow a burro on Sundays to show the visitors how it worked. Did someone say "No animals allowed on the Monument"?

On November 19 the Custodian and H.C.W.P. left the Monument for Hermosillo, Sonora, to visit the Exposition and Rodeo. We were both favorably impressed with the Exposition which was mainly agricultural although there were many fine exhibits of products made in Mexico. It was interesting to note in three of the large buildings housing the exhibits that approximately 90% of the Mexicans entering made a right angle turn and followed to the right while the entrance which was a short hallway had exhibits directly in front and to the left. It seems strange that 90% of the visitors would blindly turn right with exhibits in plain view to the front and left. Well, I suppose it is hard for teachers and parents to train some children to use their right hand, but they never forget.

We returned to the Monument on the 22nd and threatening weather prevented us from making any side trips to see Missions which we had originally planned to do.

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Remark: Louis seems to have had a big month at Tumacacori; 222 parties as against 196 last month and 285 a year ago. His attendance was 1,109 as against 743 last month and 1,141 last year. He has an average party of

TUMACACORI (CONT.)

5 as against 3.7 last month and 4 last year. This is one of the few places where the average party has increased. I don't know why, but our parties this year are averaging smaller than last year. The time of stay was 29.5 this month as against 33.1 last month and 55 minutes last year.

Mr. Caywood's observation on the high percentage of visitors turning to the right is interesting and I might report here that it looks like we are going to get a right hand circulation in two of his museum rooms and a left hand circulation in the third. The Educational Division tells us that the visitor will see and be attracted by the cases to the left, there being no cases to the right for several feet, and will go backwards around the room without trouble.--F.P.

BANDELIER

By J. W. Hendron, Acting Cus.

Visitors

We had 518 people visit us this month, falling short 10 of November, 1935, the total for that month being 528. Visitors arrived in 173 cars from 20 states, District of Columbia, Hawaii, and Canada.

The six highest states by order of visitor count were: New Mexico, 212; California, 52; Illinois, 24; Kansas, 17; Colorado, 16; and Oklahoma, 15.

Eighteen people visited us from foreign countries, including England, Canada, Australia, Cuba, Hawaii, and Central America.

Return visitors numbered 66 and 15 of them took the guided trip through the ruins.

Weather and Roads

Days partly cloudy---	10
Days cloudy-----	1
Maximum temperature--	.00 Oct. 29
Minimum temperature--	.20 Nov. 4
Mean maximum-----	50.3
Mean minimum-----	30.9
Precipitation-----	0.37 against 0.09 for Nov., 1935.
Snow and rain-----	Nov. 2 and 18.
Dust storms-----	None.

The entrance road is in fair shape with the exception of a few rough places on the Ramon Vigil. An occasional bit of snow can be seen lying on some of the south slopes but as yet the road is not affected by snow. Fall weather is still continuing in the Bandelier region; in fact, this

BANDELIER (CONT.)

is one of the mildest seasons I have experienced in New Mexico. It can't last much longer, however, and I'm expecting a snowstorm most any time now.

Visitor Trip Chart:

72 parties took guided trips through the ruins, making a total of 249 people, the average time per party being 70 minutes. Nine parties were given short talks or partial ruins trips averaging 41 minutes per party.

It seems that individuals more interested in the sciences visit Bandelier in the fall and stay longer than our summer visitors. On several occasions parties have made trips to the lower canyon and have been most interested in the geology of the region.

Special Visitors

October 24 - Farrell McLean, engineer, in for several days working on the new entrance road. Andy Clark and wife came in, to be here several weeks. The Clarks have a trailer now and a few days ago they bought a new Packard coupe.

October 28 - ECW Auditor Fred M. Strieby made a short trip around the ruins.

November 2 - Cliff London, Jr. Engineer from Berkeley, was with us for a few hours.

November 8 - Frank A. Kittredge, Chief Engineer, was in on business A. E. Underhill, also of San Francisco, and Mr. and Mrs. J. B. Hamilton of the Santa Fe office.

November 10 - A. E. Underhill returned for a few hours. Ansel Hall and J. C. Ewers, from the Berkeley office, dropped in to talk over the museum. Mr. Ewers remained for a few days so that we could really hash things out.

November 15 - Assistant Superintendent Hugh Miller arrived to spend several days here on business. Mrs. Miller arrived later. D. Sutton & Lorimer Skidmore, architects from the Santa Fe office, were out for a trip around the ruins.

November 16 - Charles L. Gable, Chief, Park Operators Division, arrived for several days' conference with Mr. Miller.

General

Hunting season ended the 15th, and from what I can gather only three deer were taken from the north mesa this season. Game seemed to be

BANDELIER (CONT.)

plentiful before the season opened but suddenly became scarce, nobody knowing their whereabouts. George Sholly and I rode over the south mesa several weeks ago to the "Stone Lions", and back by the upper crossing. We thought that game would be plentiful over there, but to our disappointment we saw only one deer; however, we did see about 30 turkeys about three miles above the Ceremonial Cave. The Cochiti Indians still hunt in the Monument and I suppose they always will. Shots can be heard every now and then but from all reports the Indians didn't kill anything.

I see from the Broadcast that Bill Sharpe is going to get married. I wonder why he doesn't let us hear from him and tell us all about it.

Earl Jackson wrote me a nice letter the other day. It seems that Earl is pulling out of it in fine shape and is almost ready to go back to work.

If I were Hugh Miller I think I would be fed up on visiting Bandelier. We are there to meet him before he gets up in the morning and he can't even eat his breakfast in peace without having "shop" along with it. He is kept busy answering questions all morning and afternoon, and then we keep him up until mid-night sort of finishing things up for the day. We are like a bunch of hungry wolves---ready to pounce on the Headquarters staff when they arrive.

I took a most pleasant trip last month, visiting Aztec and Chaco Canyon. I met Johnwill Faris, who was all hot and bothered just before the arrival of the new addition to his family; nevertheless, Johnwill showed me the ruins and made the trip most interesting. I wish we had some of that swell pottery for the Bandelier Museum.

We arrived at Chaco just in time to make a trip with Cal Miller. He took us through the museum and all the ruins and then we went over to see Gordon Vivian and Paul Reiter, who are reconstructing some of the ruins. It surely is funny, everyone ribs me about the ruins at Bandelier, but I think they are pretty swell, not spectacular like the Puerco and San Juan ruins but they tell a story all of their own. Anyway, I had a swell time and I would like to get ribbed again.

Museum Notes

As I previously mentioned, Ansel Hall and J. C. Ewers from the Berkeley office were out going over the museum plan. Ansel couldn't stay but Mr. Ewers hung around for several days. Everything regarding the displays is much clearer now and so we propose to keep in touch with the Berkeley office at all times and then we will know what they are doing. Ansel said that they were in such a position that they could spend a considerable amount of time helping us, and so, Boss, we now know just what each office is going to do and that enables us to go right ahead.

Bandelier (Cont.)

Remark: Business has dropped off at Bandelier as against last month and this was to be expected because the peak load there is in the summer and the low spot comes in the winter. We have had more parties than last year, 72 as against 50, but less people, 249 as against 328. The parties this year averaged smaller, 3.4 against 6.5, but stayed longer, 76 minutes as against 60 minutes last year.

Assistant Superintendent Miller went over things pretty thoroughly at Bandelier and reports everything going well.--F.P.

BANDELIER E.C.W.

By H. B. Chase, Project Superintendent

A large number of enrollee man-days have been consumed on Quarters No. 3 for the past month completing the building and roof construction. Interior and finishing work is now in progress, with a program that the building will be ready for occupancy December 15.

Considerable transplanting of trees and shrubs has been carried on all this month. Construction of another tree carrying piece of equipment has enabled this work to progress more rapidly than in former planting seasons.

Signs for Chiricahua National Monument are now complete; crating and shipping will be made today.

One Fire Ladder has been completed and erected under the direction of Forestry Foreman Fulton this month. Location of this erection being on the South Mesa near the west boundary of the Monument.

Landscape work and road widening performed by the Forest Service on their new road, has enabled us to secure a large quantity of Flagstone rock which was readily accepted by us and hauled to a stock pile at the Monument for use in the construction of sidewalks and portals in the proposed hotel aspen and pine poles for this development have also been secured from the right-of-way clearing and has also been placed in a stock pile on the Monument.

A small crew of enrollees have been attached to the Headquarters office for assistance in the preparation of Museum Exhibits.

WHITE SANDS

By Tom Charles, Custodian

We beg your pardon for last month's poor report. I remember that one of Gene Manlove Rhodes' favorite expressions about his writings was, "I'm not going to pump it up, it has got to flow", and I remembered that

WHITE SANDS (CONT.)

motto last month but duty called - I had to pump.

But it is always darkest just before the dawn, and while last month dragged along, this one burst forth in a blaze of glory. About the first of the month the news began to trickle through that the White Sands Extension project was to get \$28,000 for the new museum and headquarters area, with a little extra for a ranger's residence. The engineering crew was on the ground to prepare for the three miles of black top road, into the sand dunes, and the Governor of New Mexico had just assured us that in the near future the road between Alamogordo and the White Sands would be built to Federal Specification, 32-foot grade, and black topped.

Boy! Think of it - this program of ours at the White Sands was stepped up about seven or eight years overnight. That is pretty fast living for a man of my age.

Before I could get fairly turned around, here came a group of the brass collars; Chief Engineer Frank Kittredge, Superintendent Frank Pinkley, Chief Landscaper Chuck Richey, Jim Hamilton and A. E. Underhill. We fairly reveled in the association of these good friends and they were hardly gone until we had orders to come to El Paso and take one more degree, to meet Director Cammerer, Associate Director Wirth, G. E. Moskey, Herb Maier and a half dozen or more of the lesser lights. Pretty fast living, Boss.

In El Paso I slipped across the street to say "hello" to our old friend Captain Simons, Secretary of the El Paso Chamber of Commerce, and he tossed a Scribner's Magazine out before me. "Forty-five thousand, four hundred and thirty people read the story of the White Sands in Scribner's this time", said he. It developed that the El Paso Gateway Club is spending \$15,000 this year on publicity in such magazines as Time, News Week, National Geographic, Harpers, Instructor, Scribner and others. They feature the Carlsbad Caverns and the White Sands, side by side. I do not know how Tom Boles likes that but as for the White Sands, we think it is pretty good company.

Another event of the month was Carveth Well's broadcast over the national hookup in which he featured the Great White Sands as follows:

"But now let's return to Las Cruces and start on a journey over Route 70 to Roswell via Alamogordo. On the way you will cross the fantastic Organ Mountains and suddenly find yourself in one of the most astonishing regions of earth -- White Sands National Monument -- a dazzling, fairy-land, thirty miles long and nine miles wide, a billowing sea of pure white sand that isn't sand at all, but pure alabaster, the only wonderland of its kind on earth. Over twenty thousand motorists visited this amazing place in June and July. Not only are there one hundred and seventy-six thousand acres

WHITE SANDS (CONT.)

of pure white crystals heaped up in miniature mountains sometimes one hundred feet high but even the animals are white. I know of several caverns where the animals have turned white because they lived in the dark; but this is the only spot on earth where you can actually see white insects---white lizards and white mice living their lives in brilliant sunlight."

It has been a dazzling month to me. One day I sought relaxation in the columns of the Kansas University Graduate magazine and there was a six inch story, set out in a box, featuring the White Sands. It had been inspired by a visit to the Sands, by Clara Gillham of the library staff and Beulah Morrison, Professor of Psychology. Guess the world is just beginning to know about these Alabaster Sand dunes. To cap it all, Jack McFarland, of the Paramount News informs us that he will be here soon to make a news reel of the Sunday crowds. And the inimitable George Grant, Chief Photographer of the National Park Service, will be here this week to take more of the "best pictures ever taken at the Sands."

You would think we are on a bed of roses down here at the Sands, wouldn't you, Boss? But in the gay galaxy of color we find some thorns.

With the coming of cold weather the visitors build more fires, with consequent, black, ugly scars on the snow-white hills, making more evident the need of small, portable fireplaces. With each fireplace should be a table; in other words, more equipment, more convenience at the picnic grounds. Tracks on the hills will be erased tonight, holes will be covered up, loose papers will be blown away but the black scar of the campfire stands out against the snow-white hills.

Ben recently made a few "coffee stands" from scrap pieces of perforated iron plate, forming the legs by turning down the corners. It is a convenience which the average visitor will accept, and is at least a suggestion as to where his fire should be built. And, Boss, when you are working out a place for us to find the few dollars necessary for these tables and fireplaces, please do not forget the needed toilets at the picnic ground. In the next few months these \$6.00 toilets of ours are going to be in strange contrast to the \$6000 "comfort palace" at the entrance.

Traffic is still off; our registration at the Turn-Around shows only 687 and on the established percentage of 14, who register, it gives us only 4,907 for the month (no report last year). They represent 34 states and four foreign countries.

Comments: We are glad Tom's verbal well "flowed" this month instead of having to be "pumped", though we can't complain about that report of his last month.

Things were going fine when we visited the White Sands during the

first week of the month. The new utility building is finished and it is a fine piece of work; the new administration building foundations were ready to pour; the foundation of the residence was poured, and the new comfort station was about 92% complete. The parking area was rough graded and the trenches were open for the footings of the surrounding adobe walls and the curbs. Mr. Happer, who is in direct charge of the work under the Regional Office, is getting excellent construction.

When Mr. Charles says that traffic is still off, he means it is lower than last month; 4,907 this month as against 5,978 last month. Last year we credited him with 3,507 visitors so there is a gain as against last year's record.

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AZTEC RUINS

By Johnwill Faris, Custodian

Business picked up a little this month so I can report an increase again over November last year and several like months in the past seven years. Visitors for the month total 654, which is very good for the season of the year. Nearly all the tourists feel that November is not a very good time to take a pleasure trip over the several mountain passes that are necessary to reach this section. While the passes have been closed for only a few hours at a time so far, it is expected that they might close for a day or two at a time at almost any storm. With the exception of one or two bad days the weather has been ideal. The days are clear and not too cold, but the nights are quite chilly and one appreciates several blankets. Of course, the trees are bare now and the usual bother of leaves is with us for a time. Oscar is trying to master the situation and it is only a matter of time before we will again be glad that we have the trees we do.

In this same line, we are making plans at the present time to do a little additional planting that was of necessity neglected due to the parking area gravel pile. When this is done and the front of our building balanced with shrubs, I honestly feel that Aztec can lay claim to one of the most fitting and unique administration buildings in the entire Park Service. The setting is such that one just naturally falls into the atmosphere of the place and the guide has a wonderful advantage to start of with. This added to the great Kiva, the roofed kiva, etc., but then, Boss, that is enough of that kind of talk. The first thing I know I will end up by saying that this is the best Monument in the Southwest and then Budlong and Cal Miller will feel bad, so I won't carry it that far, but you know exactly what I mean.

Park Service visitors for the month include Chuck Richey, Mr. Carter, Jim Hamilton, and Hendron of Bandelier, Ewers of the Educational Division. Cal Miller of Chaco seems to have developed a sudden fondness for Aztec. He has been up several times, and I don't know but I believe I can see him feeling sorry for all the terrible things he has said about Aztec. He is

AZTEC (CONT.)

at last beginning to see the light and agree with me on the best Monument, etc.

Of the visitors mentioned above, Boss, Richey and Carter were in going over the Monument in general and then, too, Carter, as I understand it, is to be at Mesa Verde and will more or less have Aztec under his wing. We were pleased to present the Monument to them and hope to see Mr. Carter quite often. Jim, of course, was interested in the Kiva problem and that is taking care of itself well enough under the circumstances. There is little to be done without considerable expense and that at the present time seems out of the question. Hendron was here for the first time and we were more than pleased that he saw fit to stop off with us. We hope that he enjoyed his stay with us as much as we enjoyed his visit. The visit of Mr. Ewers was one that we have a great deal of faith in, and hope that from it some actual action may result on our museum. He was in and gave the problem some serious study and I know will do all he can to get something definite on this museum. We went over things in detail and Cal Miller shared in some of our final conclusions. Mr. Ewers went with me on two trips through the ruins and studied the action of the visitor from the field angle in connection with the museum, and did he put me on the spot. We had completed a field trip and at his suggestion I turned the visitors loose in the museum without a guide to help them. Now, of course, I wish to be fair with the Educational Division and admit that our museum is far from being ideal in self-guided trips, but they wished us to try them so we did. I suppose the party of about a dozen had lingered about ten minutes (longer than most of them will without a guide) when it became obvious that they were getting ready to leave. I was all pepped up, and after they were through looking about themselves, told Mr. Ewers that I would bet that even though they were through, that I could take them and start out at the first case and go right through the museum and not a one in the party would leave nor even act like they had just been through the said museum. Well, I didn't exactly expect what followed, but Ewers said "You wouldn't care to try it, would you?" Gosh, Boss, imagine my embarrassment, but I hurriedly asked the blessing of all the Gods and started out. Well, Boss, I think Ewers was just as surprised at the result as I was when he asked that I try the stunt. Every one of the visitors went right back over the same ground that they had apparently finished and not one of them showed any great disconcert at being told what they supposedly had gotten from the labels.

I do not know what the experiment might have proven to Ewers but it did even surprise me, in that I am willing to bet even money that, if you bar the student, that not any party of twelve or fourteen will spend that much time in the museum after a guide has spent as much time with them as the party mentioned above had spent on the labels. Then, too, I don't believe that the visitor gets as connected a story with the labels. They will criss-cross and go from one to the other without regard to sequence and that tends to confuse the average visitor, I think. Any way, Boss, Ewers spent a long time going over our problems with us and we appreciate it a lot.

Aside from the Park Service visitors we had with us for a few minutes Earl Morris, who of course has meant more to Aztec than any of us. He was in for a few minutes and we did much in discussing things concerning the monument. Mr. Morris stressed one point, and I would like to add my plea as an outsider, now that I am transferring, and that is that some consideration be given to ruins repair. As long as I was custodian one might feel that it was just that I wanted to oversee the expenditures but now that I am out, I hope that any pleas that I might make might be considered as a real need and without thought of personal glory if there be any in ruins repair expenditures.

And in connection with my leaving, Boss, I want to thank the Service and you as Superintendent, for seeing fit to leave me as long as you have at Aztec. I have enjoyed every minute of it, even though at times I probably thought that any place would beat this one. All the branches of the Service have been grand about cooperating and I can not express enough appreciation for the local support in the seven years I have been here. The public, the press, the workmen, my guides, and everything have blended for wonderful satisfaction in administration. To all I can but utter a big hearty "THANK YOU" and in leaving I know of not one individual I would rather turn the best Monument in the Southwest over to, than my friend from Chaco, Cal Miller. So in closing my last report from Aztec as custodian, I only say adios, from here, and hello from De Chelly. (By the way, Boss, I hear from very reliable sources that Budlong was dead right in his claim that Canyon de Chelly is the best Monument in the Southwestern setup).

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CHACO CANYON

By Thomas C. Miller, Custodian

General

More local people entered the monument during the month than at any one month during my tenure at Chaco. The approach roads have been in excellent shape all the month. The Indian Service and the State have maintained the approach roads both north and south. The Navajos and the Soil Conservation Service Siouxs have been having horse races every Sunday at the Wetherill race track west of Pueblo del Arroyo. Consequently, it has attracted a lot of local people to visit the monument. At this time the Sioux Indians have been successful in winning every major event.

Weather

The weather has been excellent all month. Maximum temperature for the month was 69°, October 29; minimum temperature, 10, November 4. Precipitation .40 rain and melted snow was recorded for the month.

CHACO CANYON (CONT.)

Travel

585 people entered the monument in 197 automobiles coming from 10 states and the District of Columbia.

Special Visitors

Dr. Hewett and Dr. Fisher were business visitors October 26 and 27. C. C. Finaly, special deputy officer, U. S. Indian Service, arrived Oct. 29 and departed on the 30th. Mr. Gus Griffin and his assistant, Mr. John Lincoln of the Soil Conservation Service from Arizona were monument visitors November 4.

National Park Service Officers:

Associate Engineer Hamilton and Acting Custodian Hendron, Bandelier National Monument, arrived and departed October 28. Mr. Erik Reed, ECW Inspector, from the Oklahoma City Office, and Mr. and Mrs. John H. Veale, construction engineer, ECW, Santa Fe, arrived November 7. Mr. and Mrs. Veale departed the same day but Mr. Reed remained until the 10th and departed for Goliad, Texas. Mr. Reed informed us that he would return December 1, and would remain in Chaco until the WPA project closed some time in February. Custodian Faris, was in and out a time or two. Faris has developed a liking or something for cliff dwellings; however, he apologized for all those mean things that he has said about Chaco. However, he still maintains that good stuff comes in small packages and, Boss, that fellow is really convincing at times. I have begun to think that Aztec is a better ruin than the house mounds in Chaco Canyon. Jim Hamilton and Mr. Ewers, Field Curator, National Park Service, were monument visitors on the 14th. Mr. Ewers told me that Chaco was the best monument that he had visited and that if he had visited Chaco first he could not have looked at the other ruins in the Southwest. Mr. Ewers visited Pueblo Bonito and Chetro Keti.

Activities of Other Agencies in the Monument

The School of American Research has been building new hogans and working on their water system all month. Miss Bertha P. Dutton has continued her work excavating the ruins of LAYIT KIN (Way down Deep House). This ruin was formerly known as Small House Unit No. 26. Excavation was started on this ruin in 1934, and it now looks as though it is going to be a fine ruin. Attached to this report you will find Bertha Dutton's report.

The County School in the Chaco was closed on November 20. The reason for this action was that many of the local ranchers moved their children to town for the winter months and the daily attendance was too low to continue school.

The Soil Conservation Service has continued their repair work on

CHACO CANYON (CONT.)

earth dykes and revetments all month. This project is about 50% complete. All construction with this Service will be suspended November 25. We hope this shutdown is a temporary arrangement, as we have a lot of unfinished work in this monument.

Accidents:

On October 20, we received a phone call from the trading post to come at once; this was at 6:30 p.m. When I got to the trading post I found several Navajos that seemed to be greatly excited. Mr. Springstead, the trader, informed me that the 5-year old son of Joe Yazzie had been shot to death by Charlie Atencity, 12 years old. The Fathers of both boys are employed in the Monument. We proceeded to the scene of the tragedy, which was four miles north of the Monument headquarters and one mile north of the Monument boundary. We learned the story fast after we found the body. Apparently the two Yazzie boys, 5 and 8 respectively, were hunting rabbits with Charley Atencity, 12 years old. Charley was carrying the gun and it was accidentally discharged hitting Nee-Yah Yazzie in the left eye. The bullet came out behind his left ear causing death immediately. After I touched the little boy to see if he still lived both the mother and father came up and touched him. Until that time neither of them knew that the boy was actually dead, but they were afraid to go near death until some one else touched the body. I have never seen people take a death any harder than the Yazzie family. After about an hour I asked the Yazzie family what I could do to help them. They informed me that we could bury the boy and say nothing about the death to the Indian Service. I told them that that was out of the question that all deaths would have to be reported. I then asked them if I could take the body to their hogan until morning. Of course, they said no, leave him where he is until morning. It was about one half mile to the hogan. I then gave orders to the Navajos to build fires near enough to the body to keep the coyotes from eating it that night and after much discussion they agreed to do this. We buried the little boy along with all his possessions the next morning on the floor of the Chaco Canyon in the Monument.

This accident was reported to the Eastern Navajo Agency on the morning of the 27th. It was later investigated by Mr. C. U. Finlay, special deputy officer, on the 29th and 30th. The Navajos were greatly excited when the officer arrived, but after I assured them that the officer just wanted the facts of the accident and did not want to take the little boy off to jail they were all right. The Yazzie family remained in their Hogan four days after the death without leaving the house.

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(Way down deep house)

By Bertha P. Dutton

Four kivas: Two excavated to the first floor level; two excavated in part. Fourteen house rooms were excavated; two others partly excavated.

CHACO CANYON (CONT.)

Kiva A: Rooms 7, 8, and 9, "niche" west of Kiva A, probably the room west of room 7 and the room west of room 9; the area northeast of Kiva A and the area north of Kiva A, and the room north of room 9, constituted one unit.

Room 9 and "niche" west of Kiva A excavated to first floor level. Room 7 and part of room 8 excavated to lower depths, revealing old underlying structures. The area southeast of Kiva A excavated to below first floor levels of rooms 7, 8, and 9. Area north of Kiva A excavated to depth of 10 feet below standing northeast wall of Kiva A revealing underlying kiva structure (Kiva C), and probably part of underlying structures of rooms 7 and 8. Room (?) north of room 9 unexcavated. Probably another room lies to the west thereof. The room west of room 7 was outlined but unexcavated.

Kiva B: Rooms 1 and 3, 2, 4, and 5; The area east of rooms 4 and 5; rooms 15 and 16; probably at least two rooms west of 15 and 16, with unknown limits to the north, and possibly rooms 10 and 11, constitute another unit. Kiva B is Mesa Verde in type (so-called) ("key-hole" type). Evidence from these house rooms seems to be in keeping with this. Kiva B lies almost directly north from but on a lower level than Kiva A.

Kiva D: Rooms 12, 13, 14, and area between rooms 12 and 14 and Kiva D, constitute another unit. Eastern limits are undetermined. Kiva D is of the 4-pilaster type but excavation insufficient to warrant further comment.

A stratotest was made in a refuse mound east of unit A, and in refuse apparently from this sector.

Work was begun on this site (then designated as Small House Unit No. 26) in July, 1934. Work was carried on for about three weeks. In the fall of 1936, about six more weeks of work were put in on this site. Bertha P. Dutton has been in charge of the work since its inception. During 1936 she has been assisted by Marjorie P. James.

For the main part the site has been sterile as to important cultural finds, but numerous small items of mention have been found, such as: imprints of baskets, bone awls, arrowpoints, reed matting, the usual manos and metates, axes and sledges, objects of coalified wood and argillite, pigments, shell bracelets, etc. A rather large quantity of wood and beams were recovered.

An infant burial was recovered beneath the first floor level of room 16. It was disturbed by water action. The infant had been wrapped in reed matting. It was accompanied by two half bowls of Mesa Verde ware and numerous squash seeds. The body was extended, lying on its back with head towards the west.

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Comments: Again Carroll has given us a story good for the wires if we were looking for publicity. And again do we get that sharp contrast between the present year of our Lord, 1936, and the Navajo angle which is some five hundred years back. Our work is full of such anachronisms but they become so common to us that we only notice an exceptional case like this.

The Service should have another specialist whose specialty would be psychology. We want a study made of the reaction of the recent changes from Chaco to Aztec, Aztec to de Chelly and De Chelly to El Morro, and want to be set straight on just where the "Finest Monument in the Southwest" is; as it is, we are getting a little confused.

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CASA GRANDE

By J. W. Winter, Custodian

As predicted last month our visitor count rose somewhat, reaching 2,909. They came from 37 states, the District of Columbia, Canada, Ireland, India, Mexico, China and Germany. Only one special group is recorded, 21 Mohave Indian boys from Parker, Arizona, who had been visiting the Pima reservation at Sacaton.

We had a number of newsworthy visitors. October 27 we met Will C. Barnes of Phoenix, well-known pioneer and historian of frontier days. November 13 Dr. Emil Haury, Assistant Director of the Gila Pueblo, Globe, came in accompanied by Earl Morris, archeologist of the Carnegie Institution. November 13 we had the pleasure of meeting Dr. Hugh De Valin of the U. S. Public Health Service, San Diego. Dr. de Valin was at one time in charge of Hot Springs National Park before the Park Service took over. November 22 we were very glad to meet an old friend, Bill Thompson, manager of Mammoth Cave, Kentucky, whose area is now being taken over by the Park Service. An interesting visitor November 23 was Samuel T. Lee, retired Foreign Service officer, formerly U. S. Consul General in Brazil. November 22 the ruins were viewed by Edward M. Grooth, U. S. Consul, Calcutta, India.

As usual, most NPS visitors were for Headquarters, not the Monument. We can only record those who signed the register or went through the ruins. November 1 we met Fanning Learon, Chief of the Division of Motion Pictures, USDI, and later in the month his partner in crime, Paul Wilkerson. Perhaps a visitor but rather a member of the family was Custodian Frank Fish of Chiricahua, whom I had the pleasure of meeting for the first time November 4. Last but far from least came our old friend Don Louis Schellbach, from Grand Canyon, accompanied by wife and son. Don Louis and I hadn't seen each other since escaping from the Washington Office over a year ago. We used to get together and talk over the matter of the contemplated escape. We finally made it.

CASA GRANDE (CONT.)

The weather was pleasant, on the whole, except for the extraordinary amount of east wind, with some dust. You may notice by SWM 16 that many ruins trips were shorter than usual and the reason was of course that people don't enjoy staying in the Casa Grande with a howling wind whipping the dust up off the floors. Temperatures ranged days from 65 on November 3 and 22 to 90 November 15. Nights from 31 on November 7 to 59 on October 27 and 30. Precipitation was .09 inch.

Our major gripes are still the same: Lack of personnel, no new sewer system, no funds for use in controlling our mesquite infestation. The first item has been helped considerably by our being authorized to hire an extra guide on Sundays, though I grudgingly spend the money from our regular funds. What has become of the new sewer system I don't know and until it is installed we must continue to spend money on our old make-shift sewer pump engine. As for the mesquite, the powers that be apparently prefer to let it remain infested even if it costs us all our trees. Perhaps the idea is that the bugs and worms have a right to life, liberty and the pursuit of happiness also.

The resurfacing of our entrance road and parking areas is practically completed. We deeply appreciated the opportunity of actually seeing Underhill at work. He does work, you know, every now and then. Everett asserts that my base insinuations regarding him in last month's report were utterly without foundation. Unfortunately he does not have access to the printed page whereon to "deny the allegation and defy the alligator."

A new coil water heater has been installed in the Chief Clerk's quarters. This provides hot water with the greatest of ease and now Jim can hardly wait until Saturday night to take a bath.

This time I haven't any nature notes to report so my material is practically exhausted. One other recent incident occurs to me, though - a lady entered my office and asked if the "gun expert" was in. I modestly admitted that she might mean me, whereupon she produced an ancient and rusty Colt .36 Navy revolver, cap-and-ball, vintage of about 1860. She wanted to know all about it and what it was worth. As a gun it had no market value, because of its poor condition and the fact that it was not of a rare type. However, she had found it in New Mexico (she lived in Lordsburg) near the spot where she said Geronimo had been captured, not very far from Chiricahua National Monument. I suggested that some collector might value it for its historical background or perhaps she might like to donate it to the Chiricahua National Monument museum when and if established. It really was an interesting piece, apparently highly valued at one time, as it had a silver front sight and a silver name plate (blank) set into the walnut stock. It was loaded in five of the six chambers. It is of no particular value but would be worth having in a museum as an historical relic of the sixties and seventies in the Southwest.

Last week the H.C.W.P. and I took a day off and visited Saguaro National
SOUTHWESTERN MONUMENTS

CASA GRANDE (CONT.)

Monument. Paul was on the job and we were glad to see him again.

Last minute news flash: Our front curb shows an unbroken line of California licenses. Why? Can it be that the Californiacs are forsaking their much vaunted climate for ours? Okay, Chambers of Commerce, fire away!

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Comment: Business is picking up to pre-depression levels at Casa Grande and it looks like we are going to have a heavy winter traffic.

It looks like we will be back with our old familiar peak load problem on Sundays and holidays, but we think there is some way to handle up to about 450 or 500 per day before the congestion gets us down.--F.P.

EL MORRO

By Robert R. Budlong, Custodian

November has been a very busy month. This officer has spent his time between two Monuments -- Canyon de Chelly and El Morro. At this writing we are at El Morro, with a fire burning in the new stove, while outside the wind howls around the rock and a fine snow drives against the windows of the cabin. Snow has remained on the ground in shady spots since the snowfall of September 27, and daily we expect a fresh, heavy fall of it.

The cabin has been rearranged inside, fresh chinking done around logs, weatherstripping put around windows and doors, and we are preparing the cabin for a cold winter, "just in case." Our greatest worry right now is the wood situation, but we have been promised several loads of it in the near future.

El Morro is a beautiful Monument. A great opportunity exists here for work during the winter, on which work we already have started. The new Custodian and the new HCWP have acquired over sixty volumes dealing with the early history of the Southwest, early expeditions, etc., and this material is being copied, where necessary, and arranged so that in the future both condensed and detailed information regarding the Rock and its history may be found in the official files without difficulty.

Compared with de Chelly, El Morro swarms with wildlife. While most of the "wild animals" seem to be cottontails and jackrabbits, some coyotes have been heard, and last week a wolf was reported as having been seen crossing the road between here and Ramah. Large numbers of birds seem to be making plans to spend the winter here, and these we are feeding at the cabin, and they are becoming very tame. Yesterday afternoon was spent hunting for a black cat that had made its home within the boundaries of the Monument. The hunt terminated in mid-afternoon, most successfully,

EL MORRO (CONT.)

on a high ridge among the pines on the north side of the rock, and now we feel that bird life and the number of small animals will stand a much better chance of increasing.

Visitors have been somewhat scarce during the month. To date 78 persons have registered since Vogtie sent in last month's report. Beginning with next month, more detailed data on visitor attendance will be available -- if we get any visitors.

The HCWP and I met Charlie Steen in Gallup the morning of November 4, and we spent the morning listening to a discussion of plans for the taking of motion pictures by the group of Washington Interior Department men of the Division of Motion Pictures: Mr. Fanning Hearon, Mr. Walter Scott, and Mr. Paul Wilkerson. After lunch Mr. Scott and Charlie Steen started for El Morro, reaching it about an hour before we did. We all had supper at the cabin, and they returned to Ramah for the night. Next morning they came out early and Mr. Scott took motion pictures of many of the inscriptions. Then they left for points north, including de Chelly, where I later met them.

Vogtie departed before we moved down, and we were mighty sorry to miss him. We had spent several very pleasant days with him prior to his departure for Nevada, however, and he rendered all possible assistance in furnishing information relative to the Rock, in ordering wood, and doing a thousand and one things to make things easier and more comfortable for us. We miss him mightily, and greatly appreciate all the trouble to which he went in our behalf.

Numerous directional and other signs, now no longer necessary, have been removed. Some of the framed informational Park Service descriptions of inscriptions and early expeditions have been removed, where they contained erroneous information, and as soon as we complete brief summaries of information dealing with other inscriptions, the remaining framed explanatory placards will likewise be removed, since the permanent custodianship now makes such placards unnecessary.

We are considerably worried over the present condition of the Eulate inscription. While a cement footing was poured at its base some time in the past, we are not at all satisfied with the general condition of the rock slab on which the inscription has been carved. We will make a careful inspection of it and report more in detail in the near future.

A number of heretofore unobserved inscriptions have been found during the month, and quite a little information found on some of the later inscriptions. This information is all being assembled for the files, and if we can just get enough time during the winter, we hope to be able to present for your inspection a rather interesting file of such information. Right now we are both suffering from an old, familiar malady -- lack of time. The typewriter hums away busily at odd moments during the day, and

EL MORRO (CONT.)

often well into the wee, small, hours; but when the snows arrive in earnest we hope to have more time to spend working on this material.

This has been a most unsatisfactory report, Boss, but I hope to be in a position to do better next month. Vogtie has set a high mark in reports for me to aim at, and right now I must admit that my marksmanship is poor, even though the object of yesterday's cat hunt might not admit it. Incidentally, while we do not know where bird-hunting cats go after their departure from this vale of tears, we trust that that particular one I annihilated yesterday is now enjoying a warm, dry, climate on this cold winter's day.

Remarks: This is the first report we have had from Bud and Betty in their new home.

We note the number of 20 guided trips this month compares with 30 last month and with 12 a year ago. The attendance was 72 this month against 153 last month and 45 a year ago. The average party this month was 3.6, last month 5.1 and a year ago this month was 3.8. The average time per trip this month was 73 minutes, last month 56.5 and a year ago was 30 minutes. It looks like Bud found something to talk about as soon as he arrived and is able to hold his visitors long enough for them to find what it is all about.

I might say that the Eulate inscription is not making its first bow to the puzzled investigator who wants to preserve it. We will go back through the files and see if we can uncover the correspondence of several years ago when that concrete footing was poured at the base of that slab, and if we do find it we will run it in the Supplement to the Monthly Report in order to put it into the record.

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CANYON DE CHELLY

By James D. Harritt, Ranger in Charge

Visitor travel for the month of November showed a marked increase over that of last November. Total visitors this month numbered 45. For the same period in November, 1935, the count was 30. Visitors took trips as follows:

<u>Trip</u>	<u>No. Trips</u>	<u>No. Persons</u>	<u>Total Time</u>	<u>Average Time</u> <u>per trip</u>
Rim	10	43	1,050 min.	105 min.
Car in Canyon	1	2	240 min.	240 min.
Trail	0			
Horse	0			

Visitors arrived in 13 cars, averaging 3.46-plus visitors per car.

CANYON DE CHELLY (CONT.)

The canyon started flowing late in October, and has been flowing steadily since that time, making travel by automobile within the canyons dangerous. The largest volume of water since last spring came out of the canyon October 30.

Weather has been generally good, with cold nights and fairly warm days; highest emperature during the month was 71 degrees on October 29; lowest temperature was 12 degrees on the 5th of November. Greatest range in 24 hours was 49 degrees on the 17th. Twenty-six days out of the last 30 have had a minimum temperature well below freezing. Ice and heavy frost have been common. Rainfall for the period amounted to .79 of an inch. On the evening of November 2 it snowed 1/4 inch. We came indoors about 8:00 p.m.; at 8:30 p.m. a cloud bank had rolled in and it was snowing heavily. The Southwest is not only a land of magnificent distances, but of fearful and wonderful climatic convulsions, as well. Several other snow falls were noticed at odd times, but amounted to little more than flurries, too light to record.

Only official visitors for the month were Johnwill Faris and Cal Miller who dropped in the 11th to look the place over. I had met Johnwill before, but this was a double pleasure to see both Chaco and Aztec Monuments represented here at the finest Monument, simultaneously.

Mr. Yokum, of the Geological Survey, with Mrs. Yokum, and a crew of two, came in the 12th, and have been doing preliminary triangulation and base line work for the boundary survey. They are to be followed shortly by the topographical crew, who will complete the work.

Went down to El Morro on November 16 to bring Bud back for a final cleanup here at de Chelly. We awoke the 18th to find it cold, blowing hard, and threatening very bad weather. Packing furiously all day we got out for Gallup that evening. I returned with the pickup the evening of the 19th; shortly after I was startled to find a large, heavily laden truck in town. It turned out to be Johnwill with a load of household goods. We unpacked, and he left again for Aztec the same evening. There is something about this northern weather that is most "moving". It must be the roads.

Work of other government agencies in the canyon has not been intensive. Soil Conservation Service worked on some land protection during the month, but have shut down for this season. Aside from the survey which will be continued by the Geological Survey party when they arrive, little else probably will be done within the Monument boundaries till next spring.

I was certainly sorry to leave Bud and Betty down at El Morro last Thursday, but cannot help but envy them in their new location and beautiful country. I sure wish them lots of luck down there.

Well, Boss, I would like to have made a little longer report on this, my first attempt, but feel that my literary talent has about run out. For

CANYON DE CHELLY (CONT.)

this time I will close and get this to the mail if I am able to make the run that far through the swirling dust and wind.

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Remarks: Canyon de Chelly had about a normal month and we are safe now, after three years of testing, in saying that the travel season is over at that monument by November and we will probably not be able to increase the number of visitors in the winter for many years because of the bad roads and winter weather. - F.P.

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GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for November, 290.

Last Sunday was a beautiful sunshiny day and we had 106 visitors. Fifty-two percent came from farther than 100 miles; thirty percent came from 25 miles or farther; and the balance was local. I think this goes to show we can expect a goodly number of visitors during the winter months, once the roads are in good condition.

More than anything else, this Monument needs a museum collection and a safe place to keep it. Not only will it enable us to gather in a considerable collection from the farmers in the vicinity, but it would go a long way toward attracting visitors from a distance.

Mr. F. V. Scholes from the Carnegie Institution, Division of Historical Research, Washington, D. C., spent about a week in the vicinity looking over Pueblo sites and studying the reservoirs, etc., in the Gran Quivira group of ruins. Mr. Scholes has promised us copies of some manuscripts recently discovered, dealing with this group of pueblos. From the records this ruin is evidently the Mother Mission and not Tiberia, Tiberia having been a small pueblo, a Visita of the Mother Mission. One manuscript tells of a protest the Chief of this pueblo made to one of the governors at Santa Fe in regard to priests watering four hundred head of cattle from the posos of this pueblo. He ends by saying that his people will soon be without water unless some of the cattle are moved.

We have a large survey party in the vicinity. They are re-establishing corners and definately laying out township lines, etc. They expect to be in the vicinity all winter.

I think we had a slight earthquake in this vicinity on Wednesday, the 18th. The wife had a pan of bread dough upset from near the stove, the bird baths were shaken from their pedestals and quite a few things in the vicinity disturbed. At the ruins quite a number of loose stone fell from the walls and in places some projecting corners had to be removed for fear

GRAN QUIVIRA (CONT.)

they would fall on visitors passing thru.

Three times during the month we showed pictures in the Community building down at the village. I was able to get some very interesting films on the pueblos in the vicinity of Santa Fe. One on the Indian Pottery of New Mexico was especially interesting. Animals in the National Parks and several films on the National Forests and Alaska were also very much appreciated.

Quite a number of people have been bitten by rattlesnakes in the vicinity lately but no casualties on the Monument. The natives say this is the latest the snakes have come in to hibernate in a number of years.

Several students from the University at Albuquerque and one of the directors of the New Mexico, Cuarto Centennial of Coronado, spent an afternoon here last week. They expect to return again in the near future to look over a group of ruins near the Atkinson Ranch. These ruins are some that Mr. Scholes did not succeed in finding and asked me to send him a report on them.

Practically all cisterns in the vicinity are dry and water has raised from ten cents to twenty-five cents a barrel. We have sufficient cistern water to carry us at least another month depending on the number of camping parties we supply, and of course the deep well is not affected by the drouth.

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Comments: Gran Quivira seems to be doing pretty well in the way of visitors. Mr. Boundey gave 64 guided trips this month as against 50 last month and 40 a year ago. His attendance was 290 this month as against 159 last month and 200 a year ago. His average attendance per party was 4.5 as against 3.2 last month and 5.0 a year ago. His average time per party was 51 minutes as against 56.7 minutes last month and 35 minutes a year ago.

We are interested in that part of the report dealing with snakes. "Quite a number of people" may mean anything above two, and we are going to ask Mr. Boundey to report the actual number with names and dates so far as he can trace them down. Also, it will be interesting to know if any of the bites resulted fatally.

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SAGUARO

By Paul Beaubien, Ranger in Charge

From the morning of November 3 to the night of November 23, 742 visitors were checked by the CCC boys at the Speedway entrance of the monument. During that period, I contacted 147 people at the ranger station.

Travel figures for previous months: For the 19 days, July 13 to 31,

SAGUARO (CONT.)

inclusive, there were 1,878 visitors. Six days of heavy traffic during that period were due to the filming of "The Gay Desperado" by the Pickford-Lasky Production Company. From August 1 to 31, there were 1,005 visitors traveling in 275 Arizona cars and 39 inter-state cars. From September 1 to 30, 405 people arrived in 99 Arizona cars and 20 inter-state cars. From October 1 to 31, 675 visitors were checked through the Speedway entrance.

The above figures are not complete as the CCC boys leave for camp at 4:00 p.m. on week days, and many visitors drive here in the evenings. Also, there are days when the gate is unguarded due to inclement weather. Probably few visitors are missed on these days.

Having a CCC boy at the main entrance has helped in several respects. They took several guns away from visitors each day during the first part of the hunting season. After the first week, they stopped about one gun a day. Sometimes they found visitors carrying away cactus plants. These people were made to take the cacti back and replant them in the Monument.

Several miles of roads in the monument are in bad condition due to the summer rains. I have filled a couple of cuts with rock, but they all need a general overhauling. I wish the improvement of existing roads could be made a project of the CCC Camp. Several thousand visitors will be using these roads this year and next.

I have comfortable quarters in the old tool shed, but do miss a water supply. By living in monument, I meet some night visitors that I missed last year. Have taken two parties on nature trips by flashlight. That isn't my idea of how to run a monument, but it's either that or having them come in to spend the evening with the poor ranger.

Have had several stormy days lately, but I expect the run of winter visitors to get under way shortly.

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Comments: We have moved our temporary man into Saguaro a little early this year in order to study the winter visitors and find when the curve there begins to rise.

Paul guided 44 parties, making a total of 147 persons. The average party was 3.3 persons and the average time the party stayed was 37.9 minutes. It must be remembered that this is a report for only part of the month, making the total number of visitors too low for the whole month. 742 visitors were checked through the gate, but, as Paul points out, some percentage came through after the checker went off duty at 4:00 p.m. We will have closer figures next month.

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CHIRICAHUA

By Frank L. Fish, Custodian

November weather has been quite changeable; the earlier part of the month was cold and windy; the first killing frost occurred on the third; pleasant warm days and cool nights prevailed from the tenth to the 20th; stormy weather has been with us since, mainly strong winds, rain and finally ending in snow. At the present writing a white mantel covers the Chiricahuas.

The approach roads to the monument have been in poor condition during the month, especially the one coming from Douglas and Bisbee. The Forest Service has a detached group of enrollees from the Turkey Creek Camp staying here rebuilding small bridges on the Pinery Canyon road.

Visitors show an increase over the number given last November. We have had 330 people in 101 cars coming from 20 states. 224, or 69%, were from Arizona.

Strong winds have kept many from using the trails at times, preferring to see what they could from their cars and Massai Point. It is also noticed that the majority visiting this monument for the first time are not dressed properly to enable them to get out and hike. I might be expecting too much but I feel my duty has not been performed unless I am able to show more of the wonders at the Monument than can be seen from a car. Still it is not practical for a lady in high heels to walk long distances. While she may make it, I have noticed it is not enjoyed; consequently, most of the guided trips have been short ones. Many of the visitors feel disappointed when they arrived at Massai Point in their cars and find that the Big Balanced Rock, Punch and Judy, and other famous formations are four miles away by trail. It leaves one undecided whether in the future it will not be necessary to run a spur road to these attractions. It might be possible to compromise and run a road part way and still keep the "Heart O' Rocks" in its natural state.

Accompanied by Mr. and Mrs. Hougham, Franklin, Indiana, guests at the Faraway Ranch, a cave with its walls and ceilings painted with Indian symbols was visited. This cave is about a half mile north of the CCC Camp.

Chuck Richey was here the 10th. Tovrea and Jack Diehl came in the 21st and 22nd. Jack was true to form - he arrived with another storm.

November 5 I accompanied Mr. Stevenson to Coolidge. It was a pleasure to see the Coolidge gang again. I observed a demonstration of how to pack humans in an office along with hay bailers, files, desks and other nick nacks. It is quite clear now why someone is in the field - otherwise it appears they would have to suspend someone from the ceiling.

November 7 I attended the opening and dedication of the Douglas underpass. It is a fine piece of concrete work and has a copper plaque of the famous Cochise adorning each end.

CHIRICAHUA (CONT.)

A lantern slide talk on general park views was given to the enrollees at the Camp during the month; attendance, 125.

A circulating heater and a cast iron range were purchased during the month to be installed in the new residence fast approaching completion.

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Comments: The 16 parties with 58 people who were guided this month at Chiricahua, were smaller than the 16 parties who were guided last month when there were 120 people. The average attendance this month was 3.7 as against 8 for last month. The average time on the trail was 80 minutes as against 107 minutes last month.

Frank raises an interesting point on many visitors not being properly dressed for trail walking. One of the things we want to study in the next year is this matter of how many visitors we can get out on trails and how far can we get them to walk. Chiricahua and Bandelier have several miles of fine trails now and we ought to begin gathering visitor reaction on them. I am not in favor of driving roads through the finest scenic section of Chiricahua and the Branch of Plans and Design stand with us on that. If the visitor cannot be persuaded to walk or ride a horse he will just have to miss something.- F.P.

CHIRICAHUA E.C.W.

By Wm. Stevenson, Project Sup't.

The Echo Point-Rhyolite Trail connection has been finished this month. The completion of this trail opens the Rhyolite-Massai Point-Echo Canyon Loop.

The Massai Point-Balanced Rock Trail has progressed 1,350 feet, and work has been started on the Sara Deming-Balanced Rock Section of this same trail.

Sugar Loaf and Echo Trails were maintained this month.

Maintenance has progressed rather slowly on Rhyolite Trail as many changes are necessary to meet Park Service standards. 500 feet of this trail has been maintained to date.

The rock slide on the Massai Point road has been cleared away and a small backsloping crew is at work to prevent any reoccurrence at this point.

The Headquarters Ranger Station is 90% complete. Installation of fixtures and painting being all that is left to do.

The Equipment Shed is 85% complete--all doors are ready for hanging, and rafters are all in place.

TONTO

By Francis M. Stevenson, In Charge

It was another interesting month at Tonto National Monument with a total of 238 visitors for the period ending today.

Several rains helped to keep the trail to the ruins in comparative good condition. The visitors, from all parts of the nation, showed a very understanding interest in the cliff dwelling. There were some complaints about the road leading to and from the monument.

Statistics show that 181 persons visited the Lower Ruin in 59 groups. The total guiding time on these trips was 2,054 minutes. The groups averaged 3 persons and about 35 minutes each. There were 169 persons guided in the museum at an average of 3 per group and about 12 minutes each.

Please give my best regards to all the fellows. Thanks again for your helping hand.

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Comments: Steve handled 59 guided trips this month as against 65 last month and 50 a year ago. Business seems to have been normal. He had 181 visitors this month as against 177 last month and 248 last year, a drop in numbers over last year. His average attendance per party was 3 persons as against 2.7 last month and 5 last year. His average trip time was 34.8 minutes as against 45 minutes last month and 70 minutes a year ago.

He gave 63 museum lectures to 169 people, an average of 2.6 per party and the parties stayed an average of 12 minutes. Last month he gave 75 museum talks to 209 people who average 2.7 persons per party and stayed an average of 15 minutes.

Steve left us as this report was turned in and has gone back East. We are sorry to see him go. He has been with us only a short time but was liked by all who knew him. Good luck, Steve, wherever you go.

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WUPATKI

By James W. Brewer, Ranger in Charge

500 Use of Monument Facilities by the Public

62 guests registered at Wupatki; 52 at the Citadel Group; only 7 names are duplicated, leaving a total of 107 visitors to this Monument in November, 1936; 1935, 93; 1934, 73.

530 Newsworthy Visitors

Mr. and Mrs. J. B. Hamilton on the 24th; Mr. S. Wallace and Mr. V. Harris, of the Forest Service, on the 26th; Mr. and Mrs. Rotty of the

WUPATKI (CONT.)

Forest Service on the 8th; L. L. Hargrave on the 14th; Ferrell and Mrs. H. S. Colton on the 15th; Jack Diehl and J. H. Tovrea on the 17th; R. V. Van Valkenburgh on the 17th and 18th.

021 Weather

Skies were generally cloudy from the 24th until the 3rd; then came 13 consecutive clear sunny days; it was cloudy on the 14th with a dust storm on the 15th.

Days cloudy:	10	
Days partly cloudy:	2	
Days sunny:	19	
Maximum temperature:	64	on the 25th
Minimum temperature:	16	on the 3rd
Precipitation:	.3	inches on the 29th.
Anemometer:	4216.9	total miles
Maximum:	478.6	on the 2nd
Minimum:	29.3	on the 14th.

220 Improvements

The back dirt from Room 7 was used to level the trail on the west side of Rooms 10 and 18.

The three glazed frames to be used in the registration room have been given two coats of white paint. The Tree Ring display is ready for hanging, and before this reaches you I expect to have all three displays finished and hanging.

General

This is a mighty short report but does not reflect a lack of interest in the Monument.

On the 3rd Erik Reed left for Chaco Canyon and I continued the work in Room 7.

I've spent almost all my time there or writing notes on the work since Reed left. (We enjoyed having Erik with us and learned a lot from him.)

As soon as the negatives are printed and the material sent off for identification is returned I will forward the report complete to your office.

Navajos

Sallie got Clyde an order for six hand-made silver spoons. It seems as though that's just too much to push onto a fellow all at once, because

Clyde said he guessed he'd better get his brother Emmett to help him!

And the mystery of who cut Grandfather's drawers off is too good to keep. Occasionally the U.S.I.S. leaves a bill of Indian relief chuck or clothing here to be distributed. Several weeks ago, when the weather began to get a bit chilly, I gave Grandfather (Peshlacoï Etsedi) a set of long woolen underwear. He returned several days later; he was very indignant; he showed us the drawers; someone had cut them off just below the knee! His legs were cold! I rushed downstairs to get him a complete pair; while I was gone he talked to Sallie at length about it; he made motions as of scissors cutting; he wondered if Mexicans had done it? -- Navahos?--Americans? It was pretty bad, whoever had done it.

He went away quite satisfied with the long drawers I had brought back for him. But he was back yesterday; the affair had evidently been preying on his mind. Would we always keep the tool house locked? We should, because people from Gray Mountain might come through and go in there---we mustn't forget that someone had cut his drawers off! (The bundle of clothing had been left here in August, and I think that the drawers in question had probably been cut off for summer distribution.)

I took a party of visitors over to Clyde's camp today; as we drove up Clyde made a dash from his anvil (railroad iron) into the hogan. I'll bet somebody's Christmas present went with him. We're having the tree a little bit early this year so we can clean up and take off.

O

Remarks: Business seems to have been about normal at Wupatki during the month. The average time per party went up to 68 minutes, due to a couple of long parties.

Lest you might think the Brewers should have explained to Grandfather that long handled underwear was out of style, and thus satisfy him, I might say the present Navajo women's dress is a copy of the dress of the officer's wives at Bosque Redondo, where the Navajos were held by the army back in the sixties. When a Navajo adopts a style he doesn't want to be bothered with minor changes every fifty or sixty years, to say nothing of changing from longs to shorts every six months. Grandfather has our understanding sympathy.--F.P.

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SUNSET CRATER

By J. W. Brewer, Jr., In Charge

205 visitors registered at Sunset Crater in November, 1936; 1935, 96; 1934, 117.

Attached is a written complaint regarding roadside directional signs. The writer did not sign it so I am including the registration sheet for

SUNSET CRATER (CONT.)

comparison of handwriting. (I believe "Mr. & Mrs. W. A. Tweser of Dallas, Tex." on line 37 wrote the note.

The new road into the cinder borrow is the only confusing place I know. A temporary sign has been placed there and two months ago a permanent sign was ordered and will be erected upon its arrival.

A copy of this sign order was forwarded to your office.

O

Remarks: Copy of the complaint is as follows: "If only you knew what a great help it would be to tourists if the ones in charge of this Monument would mark the road to this section clearly at the various cross roads from Route 89! One may only guess at the turn to make."

The complaint seems to be from a visitor who thinks we should mark the roads that ought not to be taken. After turning off 66 by a standard sign we presumed the visitor would stay on 89, which is a fine wide, surfaced road, running straight north, until he came to a sign turning him off to Sunset Crater. Instead of that, this visitor wants all those cow paths, wood roads and minor cross roads which quite plainly go nowhere, to be signed so she will know that she is not to take them. Reminds me of that time we had a party come into Casa Grande and protest about the terrible condition of the roads between here and Phoenix. We said the road was graded and surfaced all the way to Phoenix and we couldn't imagine where they found it bad. They said yes, but they left that road and got on a little, narrow Indian road which was in terrible shape and something ought to be done about it! - F.P.

***** ** ** *O*)***** ** ** *

WALNUT CANYON

By Milton Wetherill, In Charge

The report for trail work can be handled best by showing a sketch of the island with points where most of the work was done.



A: A small rock wall and fill in a draw, wall about three feet high and four feet long. This wall and fill widen the trail on a bad corner.

B. A small rock wall and fill on a steep slope, wall about four feet long and two feet high.

C: Moved a large rock over which the trail went. By baring this large

WALNUT CANYON (CONT.)

rock into a wash, I lower the trail in the middle, and raised it on both sides with a rock wall and fill. (Some improvement can be made with powder.)

D: By moving a few large rocks I straightened the trail and lowered it about three feet. Fifteen feet of trail was straightened and lowered.

E. A large rock wall and fill. Wall 18 feet long and six feet at highest point.

F. A rock wall and fill. Wall ten feet long and four feet at the highest point.

Loose rock and gravel removed from between these points.

Made a trip to Wupatki National Monument by Sunset Crater Monday November 16, 1936, to see the type of burials they were taking out from beneath the floors. (Also took in the basin with Mrs. S. Brewer as guide)

Mr. Hugh M. Miller, Assistant Superintendent, Southwestern Monuments, has been the only official visitor.

The following birds were observed in the Monument this month:

Pine Siskin	American Raven
Canyon Wren	Golden Eagle
Clark Nutcracker	Lead-colored Bush-tit
Red-shafted Flicker	Western Robin
Chestnut-backed Bluebird	Mountain Bluebird
Pygmy Nuthatch	Rocky Mountain Evening Grosbeak
Rocky Mountain Nuthatch	Red-breasted Nuthatch
Townsend Solitaire	Long-crested Jay
Woodhouse Jay	Pinyon Jay
Gray-headed Junco	Red-backed Junco
Pink-sided Junco	Shufeldt Junco
Red-naped Sapsucker	Western Red-tail
Cedar Waxwing	Mexican Crossbill
Mountain Chickadee	Long-tailed Chickadee
Cooper Hawk	Western Chipping Sparrow
Western Horned Owl	Flammulated Screech Owl
Spurred Towhee	Rocky Mountain Sapsucker
	White-breasted Woodpecker

*****OO*****

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

Another month rolls around and we find ourselves in bright sunshine and cool weather very very dry. The vicinity of Capulin Mountain National

CAPULIN MOUNTAIN (CONT.)

Monument now has the appearance of a scene I well remember about twelve years ago when the family and I went to California; I recall topping the Oatman hill and looking across the Colorado River from Arizona into California and seeing cars drifting along the dusty highways with a trail of unbroken dust rising behind each car for about a mile. So I says to my family: "This is indeed the much-talked of desert of Arizona and California." Now when one is going upon Capulin Mountain getting views from three different directions over Highways 87 and 64 the same scene arises again unbroken columns of dust rising for almost a mile behind each car as they travel over the dusty highways. Never before in more than thirty years (for I have been here that long) has the dust been so bad and we are only blessed for the reason that we have had an extremely quiet fall. We are all praying that we get plenty of moisture before the spring winds set in. Capulin is one of the best parts of the state for big game, like deer and elk, and it has been so dry that not more than ten per cent of the hunters secured their deer this fall, the Custodian being one of the 90%.

Travel on the Monument has been very good this month and about 600 have visited this month. Several of the Forest Service boys have been our welcome visitors this month. They are in this vicinity classifying some of our grazing land here as to carrying capacity of stock, and, of course, they had to drive up on our Monument.

The Custodian has been doing some road work on the Volcano the past week. The lower half of the road is again taking fair shape but the constant sloughing of gravel into the road is a thorn in the side of the Custodian. Something, sometime, someway, must be done and this winter the Custodian is submitting a plan which if followed out he believes will forever eliminate the trouble.

This Monument hardly got a fair shake at the travel report for the year just past. It happened this way: in the years past the Custodian's reports for this Monument showing the monthly and annual travel have been only estimated and estimates have possibly run a little high and the Superintendent's Office knew this and has been slightly reducing the annual reports before it all went into the mill; and this year we have actually had far more travel than any previous year. The Custodian this time thought it better to be more conservative than in the past in submitting the amount of travel and the Coolidge office made the usual reduction. So I guess the Custodian bears the blame as he should. He will have to learn not to yell wolf.

This Monument expects far more travel this coming season than ever before. U. S. Highway 87 is undergoing a severe operation and the big bend in her back is being removed and the distance from Clayton to Raton will be reduced about twenty miles from the original route ten years ago and this U. S. 87 will according to plans be all paved from Denver to the Coast this coming season. I hope and expect to see this coming season 87

CAPULIN MOUNTAIN (CONT.)

carrying more traffic than any highway in the state and, of course, they will all want to see Capulin Volcano.

Fauna

I noted quite an increase in our deer population immediately after the deer hunting season this year. Probably hunters have driven them to the Monument and a deer soon learns where it is protected. We might have plenty of game with us to stay if we only had water.

I am afraid that we are going to lose some more of our trees on account of dry weather and porcupines. I will try to make a close check on the damage done and report to your office some time next month.

*****00*****

MONTEZUMA CASTLE

By Martin L. Jackson, Custodian

Have had 353 visitors for the month, 179 climbing the ladders. Twenty states were represented; also had visitors from Canada, Honolulu, Alaska, Chile, and China. Have had some stormy weather and the usual complaints about the roads. Which complaints I am sorry to say are quite justifiable.

The three dude ranches situated near here report a good number of reservations being made. Already guests are coming in, and they predict a good season.

Dr. Wallace W. Atwood of Clark University paid us a visit during the month; he is a great booster for the Park Service.

Another interesting visitor was Carl E. Wallerstedt, Consul of Sweden. He spent a couple of hours with us and said he hoped to come back again.

Engineers Jack Diehl and Tovrea spent a few minutes with us on the 18th.

While we had very few visitors during the month I found them to be the hardest to interest, to hold their attention, than any month since I have been in the Service. I found on several occasions when I would get all hot and bothered about cliff dwellers and think I was doing my suff; then some one would horn in and ask me who I thought would be the next president, or what I thought about the Social Security Act, or who would carry New York state.

Ranger Farmer insists that the cliff dwellers were not as tall as he is.. Or if they were, they were hunchbacks, from going through the low doorways. Then we had a stout lady in today that insisted they were dwarfs. Otherwise they would have built doorways that a human being could get

MONTEZUMA CASTLE (CONT.)

through. Might add, however, that she climbed all through the building.

o

Comments: Montezuma Castle shows a drop this year, from 445 last year to 353 this year.

We might state here that Mr. Jackson has a new set of store teeth in front to replace the set knocked out by the Westinghouse engine which he was trying to start. We have sent the bill through to the Compensation Commission for payment and it is nice to know that any of us can get a beautiful set like that any time we want to knock out six or eight of the ones we have in the regular line of duty. - F.P.

*****oo*****

PIPE SPRING

By Leonard Heaton, Acting Custodian

For some reason this report seems to be days late and weeks since my last report was sent in. It might be due to several things that have happened the past 30 days to make time drag.

One thing is the old Dodge Truck, which has taken some time to get in running order so that I could be sure of getting back to the bed ground at night. It seemed like first one thing would come loose or break, then another. After a lot of tinkering, stopping and starting, purchasing a battery, gas tank cap and filter bowl, it seems to run as usual, as I spent six hours Saturday in getting a load of wood for the monument.

There have been very few visitors to the monument this month. Two days took more than two thirds of the visitors. On October 27, 19 school children from Short Creek stopped for ten minutes, and on November 14 (when the ECW had a barbecue to dedicate the completion of a reservoir they were nine months in building) 20 visited. The total for the month is 56. The local travel has not been very high. Probably 180 would cover all that has been by the Fort.

I gave a lecture to the Camp on the 15th, which turned out to be rather amusing. Mr. Matland, an ECW foreman, asked me to come down at 2:00 p.m. and talk to the boys on the history of this place. Well, when I got there there was not an Army officer or an ECW officer in Camp, so I just sat around in the recreation hall for about 15 minutes waiting for some one to come. Finally two boys came in and asked what I wanted. I told them and they went out and brought back the First Sargent. I told him that Matland had asked me to talk to the boys today. He then went out and blew his whistle and called the Company together. One could hear the boys cussing and not making very favorable comments on being called away from their books, sleep and other recreation at that time, and I was beginning to wonder what I would say, as the expression on their faces

PIPE SPRING (CONT.)

was something like this: What in the _____ does he want? I explained the best I could that I was asked to talk to them on the history and if any of them wanted to go it would not bother me and that I was sorry they were disturbed. I guess they decided that now that they were out they might as well stay and listen to me. Well, I kept them for 40 minutes and only lost four or five boys that were cooks and had to go. After I had finished they were called to dinner, so I guess they were not altogether displeased.

November 16 most of the boys went on a work strike because of the food that was being served them, but on the 17th everything was all right again.

Bird Notes

On November 4 I set some of my bird traps and caught four Gambel Sparrows and since then I have been catching them almost every day. In my banding I have caught 71 Gambel Sparrows, 7 Rocky Mountain Song Sparrows, 2 Canyon Wrens; there have been three returns from the birds that I banded last spring: 36-15144, banded April 1; 36-15150, banded April 2; 36-116912, banded April 5. These have stayed here for a while and now I guess have passed on south.

I have lost two birds, one Song Sparrow that was hurt in the trap so that it died the next day, and the other one was killed by a chipmunk that got into the trap with the birds and before I could let them out one Gambel Sparrow was killed and two more were wounded but able to fly away. I am having a lot of trouble with the chipmunks getting into my traps and taking the bird feed.

On November 1 I verified the statement of Mr. L. J. Brown that he had heard some quail on the monument as I saw a flock of 15 just back of the Fort. The quail stayed around for about a week then either they left or were killed by some of the camp hunters.

Since I wrote you about the complaints I have of the boys, I think they understand what the Park Service is trying to do as I have not seen any signs of their molesting or hunting in the Monument but they do some on the reservation.

On November 5 Mr. Al Kuehl came in to do some planning and drawing for future development on the monument. He was here almost all afternoon again on the 6th. He came in with Mr. W. J. Ward, U.S.B.P.R. and we three got into Mr. Ward's car and went out on the road toward Toroweep about 20 miles looking for the best route for the road that is to be built in a few years. Al and I had Mr. Ward look over the road in the monument and if the road is made up to standard it will have to be placed south about 50 feet or there will have to be two large trees cut just south of the road. Or the west pond will have to be moved back on the southwest corner

PIPE SPRING (CONT.)

about eight feet. We feel that the road should be moved. This will mean that we will have to replace the whole set-up in the development of the monument, as to camp ground, move it south; parking area, residence area, planting of trees and the east and west entrances, I will be glad to get them established and finished up.

I have received the signs and will soon have them up.

Final arrangements have been completed so that I can get the fish that I want for this monument. If storm does not interfere I will go to the hatchery next Saturday for them.

There has not been very much work to report for the ECW this month. Since the cold weather has set in we will not build the fireplaces and we need drawings for the tables. The other projects need relocation since now the road is apt to be changed. The ditch elimination is the only project that we have to work on, and as there was some misunderstanding on it, it needs approval in the 8th period. I am letting them go ahead and haul in dirt as it will take them another six months or more to complete.

The last part of October and the first part of November we received more than two inches of rain, which was a God-send to the livestock, as most of the ponds and tanks were filled letting the stock out to better feed. Also it will help the growth of the plants. There has been some grass coming up on the south sides of the hills this month.

On November 10 a 12-pound boy was born to the Custodian and Mrs. Heaton in Kanab. Mrs. Heaton and the boy are getting along just fine.

O

Comments: Congratulations to Mr. and Mrs. Heaton on the new arrival and we are glad to hear that the mother and baby are doing well.

I might say that it has been pretty definitely settled that the new highway will be carried to the south of the Monument and we will come in to our monument with a by-pass or stub road. This will keep the heavy traffic outside and not cause any change in our set-up.- F.P.

*****OO*****

BANDELIER FORESTRY

By James Fulton, Forestry Foreman
(Received too late to consolidate with the other Bandelier reports)

From October 24 to November 13, inclusive, my crew of 23 men was engaged in cutting snow damaged aspen poles on Sawyer Mesa. These poles will be converted into ceiling material eventually. A total of 51,150 lineal feet of such material was cut and delivered to Frijoles Canyon.

BANDELIER FORESTRY (CONT.)

Of this, about 10,000 feet has been peeled and split and piled to season.

Since November 13, I have had a crew of 14 men cutting and hauling Ponderosa Pine vigas and lintel material. These products are being obtained from the Soil Conservation Service on the Ramon Vigil Grant where the aforesaid Service is conducting a timber stand improvement project. We are doing them the service of cutting and removing mistletoe-infected trees. So far, 92 thirty-foot logs have been delivered to headquarters area.

At this writing we have just ceased the practice of requiring at least one foreman to remain in camp for fire guard duty. During the winter there is no need for this, however, there is always at least one foreman who remains in camp of his own accord.

Beginning on November 11, I began holding a weekly class in Forestry. In this class, general forestry subjects are discussed, along with elementary botany. Also, during each class period, identification of local trees and shrubs is carried on. The response I am obtaining is quite pleasing.

*****00*****!*****

PERSONNEL INCREASE

THE SCHMIDTS, CARL & BETH,
REPORT A BOY

LEONARD & MRS. HEATON
ARE NOT SO SPECIFIC,
THEY REPORT

A BABY
ANYWAY, ALL PARTIES ARE DOING
NICELY AND WE WELCOME THE NEW
PERSONNEL.

P.S. LATEST BULLETIN: BOTH BOYS!

HEADQUARTERS STUFF

By Robert H. Rose, Park Naturalist

On the evening of November 2 returned from Berkeley where I have been investigating Bancroft Library records of the Kino Missions. I also gave assistance to the Field Division Staff in drawing up museum exhibit plans. Junior Naturalist Charlie Steen has been at headquarters the entire month with the exception of a few days among northern Arizona and New Mexico with Fanning Hearon and Paul Wilkerson of the Division of Motion Pictures, and approximately one week of relief duty in the latter part of the month at Tonto National Monument. Junior Naturalist Dale Kink continues on leave in connection with his scholarship at Yale University. The vacancy incurred by his absence remains unfilled to date.

Gifts and Accessions

A number of bulletins and periodicals from duplicate sets in Field Division of Education were delivered to the Headquarters Library and have been taken up on our records. From that Division we have also received a 1200-capacity lantern slide cabinet, a consignment of 200 slides sent for color work, and a lot of 12 slides of old mission records.

Bird Banding Notes

Only 23 new birds were banded at the Casa Grande station during November. Two factors account for this very low number: there is a large amount of natural feed in this area and the birds have also learned that they can get out of a trap through the same aperture through which they entered. It is both amusing and annoying to see one or more birds hopping about the first compartment of a sparrow trap then turn and fly through the entrance as soon as the eager bird bander nears. Six returns have been recorded so far this season. One return is of particular importance for the bird was not banded at this station. 35/6502, a Gambel Sparrow was taken on November 12 but has not repeated. The band number has been sent to the Bureau of Biological Survey for information.

One other Gambel Sparrow, three house finches and a Bendire Thrasher have been registered as returns. Gambel Sparrow 35/38215 which was caught and banded October 26, 1935, was captured on October 13 this year. Bendire Thrasher 34/256919, banded October 22, 1935, returned on October 28. During the evening of November 18, 23 house finches were taken with nets from the picnic ramadas; three of the birds netted proved to be returns, all were banded in the same area last year.

Louis Caywood at Tumacacori reports that he also is having trouble getting birds into traps because of the abundance of natural feeds.

DIVISION OF EDUCATION (CONT.)

The station that has really banded birds this month is Pipe Spring. Leonard Heaton has banded 71 Gambel Sparrows, 7 Rocky Mountain Song Sparrows and 2 Canyon Wrens since November 4. He has recorded three returns, all banded during the first five days of last April.

BIRD BANDING TOTALS

Specie	Casa Grande		Pipe Spring		Tumacacori		Walnut Canyon	
	Prior	Nov.	Prior	Nov.	Prior	Nov.	Prior	Nov.
Bluebird, Chestnut-backed							29	
Bunting, Lazuli					1			
Cardinal, Arizona					4			
Cowbird					1			
Crossbill							28	
Dove, Inca	2				1			
House Finch		20	1..		1			
Flicker, Red-shafted							2	
Fly-catcher, Arizona crested			5					
Goldfinch, Greenbacked							1	
Grosbeak, Rocky Mt. Evening							2	
Junco, red backed							1	
Mocking bird					2			
Nuthatch, pigmy							12	
Nuthatch, Rocky Mt.							1	
Pyrrhuloxia					5			
Quail, Gambel	3	1						
Robin, Western							3	
Sapsucker, Red-naped							4	
Siskin, Pine							38	
Sparrow, Gambel		2		71			1	
Sparrow, Rocky Mt. Song				7				
Sparrow, Western Chipping							7	
Tanager, Western							2	
Thrasher, Palmer					1			
Towhee, Canyon					4			
Wren, Cactus	1							
Wren, Canyon				2				
Totals		29		86		20		131

DIVISION OF EDUCATION (CONT.)

Bancroft Library Research

I arrived at Headquarters with some 250 to 300 pages of transcripts in Spanish from the missions records most of which were already translated. About two weeks were spent in revising the translations and in organizing this material for use in some two or three articles of 20 to 25 pages each for the Supplement. In this month's Supplement will be found the first of the series which deals with Cocospera, San Ignacio, Magdalena and Imuris. Particular attention is called to the reproduction of the original Kino burial record. This is probably the first time that photographic reproduction of this notice has been published. Prints from these negatives have been supplied to the custodians of Tumacacori and Casa Grande. Cocospera burial and baptismal records running as late as 1836 have also been photostated and prints supplied to Tumacacori.

Outside Lecture Contacts:

The following outside lecture contacts have been made and have not been previously reported in this section:

1. Illustrated lecture on Southwestern Monuments before CCC Spike Camp, Strawberry Canyon Camp, Berkeley; attendance 35.
2. Illustrated lecture on Southwestern Monuments 12:00 noon Thursday, October 22, before the California State Hotel Greeters Association, convention in Oakland; attendance 400.
3. An illustrated lecture on Southwestern geology on November 6 before the geological honor society, San Diego State College; attendance 20.
4. An illustrated lecture at 9:00 a.m. on the morning of November 7; Southwestern Archeology and Geology; combined science classes of San Diego State College; attendance 180.

Miscellaneous work:

The 1200 spaces in the lantern slide cabinet have been numbered and letters of the alphabet assigned to the individual racks. This project will continue until the slides have been assigned their numbers and a catalogue of them prepared.

About 135 photographic negatives of Sonora Missions were loaned to Bancroft Library. They secured prints for library and research purposes then returned negatives and prints to this office for captions and identification. Some eight pages of detailed notes were supplied which required about one and one half days in compilation. The notes and prints were then returned to the Bancroft Library to have a place in their collections.

STATISTICAL SUMMARY OF EDUCATIONAL CONTACTS FOR NOVEMBER, 1936

SOUTHWESTERN NATIONAL MONUMENTS

Monument	No. Employees	Guided Trips				Museum Trips				Unattended		Outside Lectures		Total Edu'1 Costs	total travel	Travel last year			
		Per Tem	No.	Att'd	Time	Av Att	Av. Time	No	Att'd	Time	Av. Time	No	Att'd				No.	Att.	
Arches																			
Aztec	1	1	127	584	3760	4.6	29.6	118	535	1885	4.5	15.9	47	181		1119	654	409	
Bandelier	1	2	72	249	5530	5.4	76.0									249	518	528	
Canyon dechelly		1	3	8	240	2.6	80.0									8	45	30	
Capulin Mt.																	600	900	
Casa Grande	2	*	335	2909	9890	3.6	29.5	233	1679	4936	7.2	21.1	154	1230		4588	2909	2165	
Chaco Canyon	1		45	157	3030	3.4	67.0	41	146	769	3.5	18.7				303	585	528	
Chiricahua	1	1	16	58	1290	3.7	80.0								1	125	58	330	
El Morro	1		20	72	1460	3.6	73.0									72	78	45	
Gran Quivira	1		64	290	3258	4.5	51.0									290	290	340	
Gila Cliff																			
Hovenweep																			
Montezuma	2		90	301	3482	3.3	38.6	86	293	1337	3.4	15.5				599	353	445	
Natural Bridges		*																	
Nevado		*																	
Pipe Spring	1		13	56	300	4.1	23.								1	135	56	180	
Rainbow																			
Saguaro		1	44	147	1670	3.3	37.9										147	742	
Sunset																		305	
Tonto		1	59	181	2054	3.0	34.3	63	169	7782	6	12.3				350	233	396	
Tumacacori	1	*	222	1109	6569	5.0	29.5									1109	1194	1141	
Walnut Canyon		1	100	353	1000	3.5	10.0									353	353	334	
White Sands		*	70	1400	900	13	20	150	300	750	2	5.0				1200	4907	2930	
Zupatki		1	19	52	1300	2.7	24									52	107	93	
Yucca House																			
Headquarters															2	200			
Total this Mo.	12	9*	1299	7936	45733	6.1	35.2	691	5127	10455	4.5	15.1	201	1411	4	460	10553	14283	11204
Total last Mo.			1348	6184	32661	4.5	39	997	4713	16757	4.7	16.8		333	4	524	10897	14869	12608
Same Mo. last yr			1072	6354	32382	5.9	48.8	295	1859	6000	6.3	20.3	171	1365	7	485	10647	11204	

DIVISION OF EDUCATION (CONT.)

Several small items of routine correspondence together with a few days on relief public contacts work concludes the resume of my activities for the three weeks since returning from Berkeley.

Visitor Contacts Figures

We had 14,283 visitors for the month which compares very favorably with 14,869 for last month (October), and with 11,204 for November of last year.

The largest gains as against last year are at White Sands and Casa Grande. The gain at Casa Grande is certainly due in great part to the heavy run of winter visitors from eastern states who have come to Phoenix and Tucson earlier and in larger numbers than for some years.

We gave 1,299 guided field trips as against 1,072 a year ago and 1,348 last month. Here again we hold up pretty well for November when we are generally expecting a drop.

These guided field trips handled 7,926 visitors as against 6,184 last month and 6,354 a year ago. Here is a nice gain over last month and over the same month a year ago. To handle this increased number of visitors, however, we dropped in our party time. A year ago this November our field trips averaged 48.8 minutes; last month they averaged 39 minutes and this month the average is 35.2 minutes. This drop does not come at the monuments of heaviest attendance. Casa Grande, Montezuma Castle show a slight gain in party time and Tumacacori shows only a slight loss. These three handled half the field trips for the month. The difference seems to come for the greater part among the monuments with smaller numbers of parties. Casa Grande handled one-fourth of all the guided field trips, 335; Tumacacori coming second with 222 and Aztec third with 127. Note that Aztec, Casa Grande and Tumacacori, all being on fairly level ground, with trips of about the same length, averaged a trifle over 29 minutes per trip at each place. Montezuma and Tonto, with longer walks up steep grades, run 34 and 38 minutes. El Morro, Bandelier and De Chelly, Chaco and Chiricahua, with much longer walks, take a correspondingly longer time. Does this mean that a guide can hold his audience for about half an hour plus any extra walking that may be necessary?

Museum trips were 691 this November against 295 last year and 997 last month. The sharp fall from last month seems to be due to 154 parties which were not given the museum trip at Casa Grande, being turned loose in the museum without a guide, and about a hundred parties at Walnut Canyon who could not be handled at the headquarters because the man in charge was working on the trail under roads and trails money.

The average time of the museum trips fell from 20.3 minutes last year to 15.1 this year; the previous month being 16.8 minutes. Aztec, Montezuma and Tonto fell about four minutes each and Casa Grande remained

about the same.

Further studies must be made at Casa Grande. The main trouble comes on Sundays and holidays when we have a peak load in the afternoons and the total attendance gets above about 200 for the day. The boys haven't developed a technique for handling the peak load.

NATURAL BRIDGES

By Zeke Johnson, Custodian

(Zeke's report reaches us just as the press starts to roll - last minute flash!)

I have been working all this month on the trails. Wish I could go back and put in about 20 more days but I have run out of funds. I have entertained 29 visitors this month and there is another small party going out tomorrow. The roads are still very good and nothing to hinder people from seeing that country yet.

I am very much thrilled over a discovery I made the other day. I was working about half way between Agusta and Caroline Bridges and at lunch time I was in the narrow canyon where the sun does not shine very much at this time of year, but I could see that about thirty feet above me the sun was shining warm and bright on the cliff. I crawled up a broken ledge thinking that it would be nice to eat my lunch there when to my surprise I saw a ledge full of houses, within 80 yards of the trail over which I have walked for more than twenty years. There is one large kiva with the roof almost complete and a fine ladder standing in the hatchway with the small willows still holding the rungs in place. I could not tell how many rungs are on the ladder because of the debris which the pack rats have piled up around its base; only three and a half feet show between the top of the pile and the hatch. Beside the kiva are two well preserved stone and adobe houses with no roofs but walls which are in a fine state of preservation. A small barrel shaped structure abuted against one of the houses. Six or eight rooms with walls of fine masonry but partly torn down are also on the ledge. There is a lot of broken pottery and flaked stone lying about. I picked up six arrow points and several broken ones. You know, I felt like a foolish kid to have passed so near these ruins for so many years and not know of their presence, but some one had found them before I did many years ago; a few pits have been dug in the ruins but the kiva has not been touched.

Nearly every group of people that makes the trip to the bridges wants to know if there are any prehistoric houses to be seen and I have always had to tell them that we were aware of just a few, and those not very interesting. Now, after I build two short ladders and clean up around the ruins I can say "Yes, some of the very best" and they won't have to travel more than one hundred yards out of the way. I am just as proud of those

NATURAL BRIDGES (CONT.)

ruins as any man my age can be. They add one-third to the value of the trip.

In my September report I told you of a big flood that came down Armstrong Canyon. The greatest flood I have ever seen in this country came down White Canyon the last week in October; the Armstrong flood was just a garden stream in comparison. The scene all the way up the canyon is changed; three willow patches through which the trail went are gone and some large logs with which I talked each time I passed are washed away also. One of the big metal Park Service signs which I had nailed to an eight-foot log and then pushed as high as I could reach is gone and there are bits of water carried brush three feet above the top spike which held the sign in place. Nearly all the camp ground under the Caroline Bridge is gone. Thirty-five feet in the White Canyon side and 20 feet on the Armstrong side were washed out. I used to have six hitching poles in a row but only two are left and I wish the others had washed away too for the camp ground is ruined. These late floods have raised havoc with the trails but I have them pretty well fixed now except that the trail from Augusta Bridge to the ladder is very tough. I will try and do some work up there early next spring.

One Navajo came down to the Monument after his buck this fall but I put the bee on him. There were several hundred does and fawns within a few miles of the Monument after shooting began on the mountain but they are well scattered now. Five mountain sheep were still in White Canyon when I left this morning.

I may go back for a few days and fix things up for I wasn't satisfied when I left, but I could smell the roast turkey and pumpkin pie. There are three prospectors near the monument and I do not know what they will do with my tent and supplies if they find I am gone for good, so I'd better go back for a few days before locking up for the winter.

K. S. Sager of Washington, D. C., and Superintendents Jesse Nusbaum and M. R. Tillotson and D. H. Madsen of Salt Lake City visited me at the Bridges not long ago.

I have some letters from people asking if they can see the Bridges at the last of this month. I answered that the roads are all right now but that they may be blocked with snow at any time.

I think that this has been a very interesting year at the Monument. More people than ever before have visited the Bridges and practically all have been from states other than Utah. I have heard no bad reports of the other monuments and nearly everyone seemed very much pleased with the one I have the honor to represent. I wish everyone of our bunch the compliments of the coming season.

*****00*****

CLOSING

Another month has counted its days into the past and we have here made a record of its successes and failures. We hope the balance falls on the good side and there are not too many failures.

We seem to be in a period of considerable shifting of men and we might warn you that there is more to come, but it is all weaving a pattern of efficiency and the shifts are not without reason. The thing that is causing us about as much worry as any other, here in the office, is the lack of a register to choose from. We need an archaeological register the worst way and it may be several months yet before one is made up. That last archaeological examination proved to be the Waterloo of most of the students we have talked with. The hundred questions seemed to be about half eastern and half western archaeology and the eastern students missed the western questions and the western students missed the eastern questions. The highest standing I have heard of yet is in the low seventies.

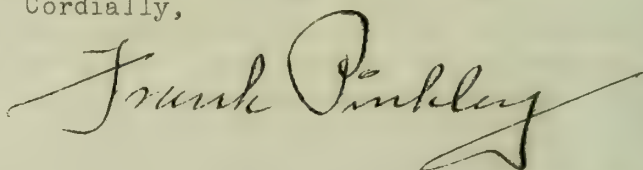
Our work is now going into its winter phase; there is practically no let-up in the office work, but the visitor load lightens a bit and shifts from the north to the south part of the district. The work of the men changes in some cases from handling visitors to protection problems, research work and planning for the next season. The men in the south part of the district have their troubles intensified, peak load problems become critical and the general tempo of their work is stepped up well above normal.

A visit to White Sands National Monument the past month has built up quite a lot of enthusiasm between ourselves and Mr. Charles as to methods of handling that Monument after the completion of the headquarters area when we hope to be able to deliver some real service and get some real facts about the class of visitors we have there.

It was a very pleasant meeting we all had with the representatives of the Government of Mexico over at El Paso early in the month and especially pleasant from my own standpoint to get the visit with you, Connie, Herb, McCole, and all the others. It is a fine gang we have when you get them all together.

We are looking forward to a busy December. Phoenix, Tucson and El Paso are already filling up with winter visitors and the hotel men tell us they are expecting the best season for many years.

Cordially,



THE Supplement

S·M MONTHLY REPORT

BANCROFT LIBRARY RESEARCH

By R. H. Rose

INTRODUCTION

In the following pages will be found translations from a number of original documents on the history of the missions of Pimería Alta. Cocospera, Magdalena, San Ignacio and Imuris are taken up in this report while in subsequent numbers other missions are to be treated. For the most part this material consists of extracts from baptism, marriage and burial records. In extracting from these documents items along the following lines have been taken:

- a. Names of various priests officiating in baptisms, marriages and burial services as gathered from their signatures of testimony.
- b. Dates of the baptisms, marriages and burials with the number of such officiated at for the various years shown.
- c. Notes occurring at various places among the records which might contribute to a knowledge of events in mission history.
- d. Copy of Padre Eusebio Francisco Kino's burial notice as recorded by Father Joseph Agustin de Campos, then the minister of San Ignacio. This is followed by a translation from Bolton's "Rim of Christendom."

It is not easy to predict the value of (a) and (b) above but it is believed that these items will have present and future value in completing the record for some of the missions where the record is scant or blank. In the case of Cocospera records continuing to March, 1836, have been found which prove this mission was a going institution until at least as late as that year. Listing the number of burials, baptisms, marriages, etc., for various years may prove of extreme value in determining the degree of prosperity in their work enjoyed by padres during some years contrasted with the scant harvest at times.

To scholars of mission history my method in at least one instance may appear bold and perhaps a little rash. I speak here of my listing of names of officiating priests. I have copied them as nearly accurate as I could make them out from the records. Thus, some of the names will be incorrectly spelled while a few may be so far from correct as to make them practically unrecognizable to one familiar with them. However, it was believed that the procedure was justified because in this way many new names of officiating priests may be brought to light which would not otherwise have been known. Most of the names I have been able to check while many others are so nearly correct as to make possible easy later verification. Several factors made correct copying impossible in some instances; these documents were in script and usually written in a very scrawly style and in Spanish, of course; the records were often faded and fragmentary; and in Pinart's summary often he was unable to determine the exact spelling of names; while lastly, errors probably crept into my copying of Pinart's records.

LIST OF PRIESTS OFFICIATING AND OTHER NOTES OF INTEREST TAKEN
FROM THE ORIGINAL BURIAL, BAPTISMAL AND MARRIAGE RECORD
BOOKS OF THE MISSIONS OF PIMERIA ALTA.

COCOSPERA

"Libro de Entierros, 1822-1836": (Book of Burials)

The first page of this record of burials contains a notice signed by Fr. Francisco Núñez and Fr. Ramon Libetz who had the power of inspecting the records of the missions. These men seem to have been the Deputy Prefect and the Secretary, respectively. In this notice they are certifying that on April 20, 1822, the old burial book is being officially terminated and placed in the archives while this new book is officially begun. Fr. Francisco Solano Garcia is "Mitro. de esta Mision de Santiago de Cocospera" - Minister of Cocospera Mission - at the time of entry of the aforementioned notice.

A little further, Fr. Francisco Solano Garcia makes an entry which translated states that "In this book are set down the entries of the deceased people of this town of Santiago de Cocospera beginning the 9th of August of 1822." In my notes I have copied in the Spanish many of these burial records in full particularly those of the critical years around 1827-1829 and those of 1835 and 1836 terminating this book. Not all of these will be quoted in the extracts to follow but the dates and the padres officiating will be listed.

Fr. Francisco Solano Garcia:

1. Mentioned in the notice of April 20, 1822, with which this Book of Burials is officially opened.
2. Mentioned in his own notice of August 9, 1822.
3. Garcia then signs burial records dated as follows:
 - a. Aug. 12, Sept. 2, Sept. 5, and Nov. 19 of the year of 1822.
 - b. A very dim entry which appears to be dated in the year 1823.
 - c. January 20, Feb. 3, 5; May 30; June 14; Sept. 4; and Oct. 5 of the year 1824.
 - d. March 19, Aug. 25; Sept. 2, 23, 24, and 29; October 21, 26; November 3, and 12 of the year 1825.
 - e. January 4; April 2, 5, 10, 12, 12, 13, 16, 2, 22 and 22; May 15; July 24; 29; October 5, of the year 1826.
 - f. July 18, Aug. 1; Sept. 14; of the year 1827.

COCOSPERA RECORDS (CONT.)

Fr. Jose Ma. Perez Llera (sp.?)

- A. September of the year 1827. His rank in relation to Cocospera is not indicated in the text of the burial record of this date.

Fr. Rafl. Diaz:

- a. November 12, 1829 Dias signs an entry referring to the unsettled conditions in the administration of the churches and points out that a number of people died to whom the sacrament could not be administered. Year 1829.
- b. September 20, 1830.
- c. May 26; Nov. 15; Dec. 2 and 25, year of 1831.
- d. Dec. 8, 20, year of 1832.
- e. May 1 and Aug. 10, year of 1833.
- f. April 30 and September 20, year of 1834.
- g. June 10, August 12, 20; September 2; and October 6, year of 1835.
- h. March 2, year of 1836.

The March 2, 1836, entry is the last one in "Libro de Entierros" for Mision de Santiago de Cocospera. This entry ends about the middle of the page. Had entries continued after March 2, 1836, it seems that they would have immediately followed the entry of this date. Hence there is likely considerable significance in the fact that March 2 is the last date entered though there was room for more. It would appear, therefore, that Cocospera Mission was a going institution as late as the spring of 1836. See later summary of Cocospera Baptismal records.

O

COCOSPERA

Libro de Bautismos, 1822 - 1836: (Book of Baptisms)

On the opening page of this book is a notice which states that "In this book are recorded that portion of baptisms of the Indians of this Mission of Santiago de Cocospera which begins on April 21, 1822." The list of padres officiating at these baptisms as noted from their signatures to the records, follows:

Fr. Franco. Solano Garcia:

- 1. April 21; May 17; September 4, 18, 18; October 7, 12; December 8; year of 1822.
- 2. January 31; March 29, 29; April 22; June 28; October 11; November 27, 29, and 29; year of 1823.
- 3. January 8; April 17; August 21; and September 29; year of 1824.
- 4. January 21; February 18; May 5; year of 1825.

COCOSPERA RECORDS (CONT.)

5. Feb. 10; April 3, 4, 17; and October 15, year of 1826.
6. July 24; October 23; November 30; and December 23, year of 1827.
7. March 23, 1828. This is the last Garcia entry in this book as "Minister of this Mission" (Cocospera); year 1828.

Fr. Jose Ma. Perez Llera: ("Mntro. de esta Mision")

1. Nov. 6, year of 1828.
2. January 23, 27 and 27; and September 21, year of 1829.

Fr. Rafl. Diaz:

1. Obscure date, year of 1828 (ends in "re" and is Sept-Dec. some time).
2. July 23, year of 1829.
3. February 17, 18; May 2; October 28; and December 14, all year of 1830.
4. January 30; April 27; June 22; and December 3, year of 1831.
5. January 13; June 15; and December 9, year of 1832.
6. January 1; March 7 and 8; April 12; July 3, year of 1833.
7. Obliterated date; March 10, both in year of 1834.
8. February 15, 15; and April 2, year of 1835.
9. January 1, 1836.

This last entry, like others, is signed by Diaz as Minister of the Mission. These baptismal records end about two-thirds of the way down the page with plenty of room for further entries. This seems quite significant and probably means that had Cocospera been a going institution after early 1836, surely the baptismal records would have been entered, finishing out the page.

*****OO*****

SAN IGNACIO

"Libro de Casamientos, 1697 - 1737: (Book of Marriages)

Campos signs his name either as "Joseph A. Agustin de Campos", or simply as "Agustin de Campos". He designates himself as Minister of the Mission "por Su Magd".

Agustin de Campos:

1. Seven records; February; April 16; July 30; and remainder obscured. Year of 1713.
2. January 8, year of 1714.
3. See later entry for year of 1715.
4. August 30, year of 1716.
5. Space for 1717 entries but only entry is "Año de 1717".

SAN IGNACIO RECORDS (CONT.)

6. October 23, year of 1718.
7. Two on July 22; two on December 24; all for the year 1719.
8. May 19, year of 1715.
 - a. An item for 1715, exact date obscured, calls attention to the "Visitado" who visited the mission, inspected the records, and entered his name in the book of baptisms. Date 1715; exact date obscured. Name appears as Felix de Villatrese (?).
9. Six, all on February 16, year of 1721.
10. Four, February 22; February 22; July 10; 1722 and obscured date.
11. Eight Campos entries. Specific dates noted are March 23, 28; April 14; Oct. 17; and Dec. 26; year of 1723.
12. Four; specific dates noted, Nov. 3 and 4; and Dec. 14, year of 1724.
 - a. Very same sheet begins about the middle of the page with entries for 1733.
13. One Campos wedding entry for July 30, year of 1735; another 1735 Campos entry noted.

Marquiam: (Probably Father Marquina, rector on the Yaqui - See Bolton's Rim of Christendom, Pages 135, 202, 203)

1. Aug. 1; Aug. 1; year of 1722.
 - a. No rank indicated.

Gallardi:

1. Dec. 29, year of 1722
 - a. No rank indicated and no further identification found.

Phelipe Segesser: ("Felipe" by Bolton)

Here, again, it is well to mention that year of 1733 entries signed by Segesser start on the same page as the 1724 entries signed by Campos. Thus, entries for 1725-1732, inclusive, are lacking in the San Ignacio Book of Marriages. It will be of interest to check from historical sources on events during this interval.

1. Total about 13 entries for 1733 by Segesser. Sheets lose their continuity and therefore there were probably many more. January 2, 6, and one obliterated January date; April 13, 13, 14, 20, and 20; June 29; July 12 and July 12, are specific dates noted. There were surely some August-December entries but due to missing sheets in the record these cannot be determined. Year of 1733.

SAN IGNACIO RECORDS (CONT.)

IGNACIO Keller: (Father Ignacio Xavier Keller)

1. August 2, and illegible date, and four more later, all for the year of 1735.
2. No transition entry "1736" noted.

Gaspar Stiger: (Father Gaspar "Steiger" - Bolton - P. 594)

1. Aug. 31; Jan. 10; Feb. 26; Mar. 22; April 22; Aug. 31, and other obscure dates, twelve in all, and all for year of 1737 except possibly the first one (Aug. 31) listed.

End of "Libro de Casamientos" for San Ignacio.

SAN IGNACIO

"Padron San Ignacio - 1768 (Census)

This census of San Ignacio was made June 25, 1768. The total census shows 158 souls. These are listed as to family heads, orphans, pimas, papagos, etc. Following the census there is an entry which refers to a family of four transferring on August 17, 1768, to San Pedro y San Pablo de Tubutama and later returning to San Ignacio where Gaspar Stiger was officiating minister. Ill treatment at Tubutama was the reason given for the return.

SAN IGNACIO

Following is a summary of a list of officiating San Ignacio priests compiled by Alphonse Pinart: The list includes the period 1697 - 1814. San Ignacio had San Joseph de Himuri and Santa Maria Magdalena as visitas. It also included the town and mining camp of Santa Ana. (Pinart's notes presented herewith have been translated from the Spanish).

Fr. Mathias Gallo:

1. Gallo appears as minister up to the 11th of April, 1778. Pinart was unable to ascertain from what earlier date.

Fr. Francisco Zuniga: (Minister for His Majesty)

1. Signatures seen for June 4 and July 4, year of 1778.
2. They begin to be seen again on January 15, 1779, up to Feb. 17, 1780. Pinart says the book was fragmentary at this point.

SAN IGNACIO RECORDS (CONT.)

Fr. Balthasar Carrillo:

1. "With the permission of the proprietary minister by commission, he was officiating from August 11, 1778, up to Dec. 26, 1778.

Under year of 1814 Pinart states that: "May 18 for the Mission of San Ignacio there is a certificate signed Fr. Francisco Fontbona, by the Secretary who says that the Right Rev. Prefect (Fr. Juan Bautista de Cevallos) of these missions (College of Sta. Cruz of Queretaro) had been here in person and directed that in the baptismal book there should be separately placed those of the Indians and those of the residents."

Joseph Agustin de Campos - Mntro. (Minister of the Gospel for his Majesty, Jesuit)

"The following document appears in the 1st page of the book of burials. Begun on January 19, 1697, under the signature of said P. Campos: "Book of burials of this town of San Ignacio -?- of Pimeria, in which are also entered those of the town of San Joseph de Himuri.

"Himuri: "I, having entered this mission in the year 1693, the 2nd day of October, there followed the uprising of the nation in the year 1695. And all the papers of administration were lost when they burned my things and my poor shelter. This is the reason for all that which I administered not being recorded.

"And years later in a (illegible word) on account of the houses being like those of a pauper, other papers and writings were once more lost and badly treated. I mention it for the possibility of correction that we may be able to supply in the order of things".

Pinart thus concludes as follows: "So we see that said Padre Campos began steadily the charge of minister of the mission in 1693. Even on November 1, 1731, there are still seen burial notices from his hand, although the last signature is on July 4 of another year. Furthermore, it appears that in January, 1732, he was still living in the Mission.

"There is a baptismal book in which many pages are missing at the front and back parts. The signatures of Padre Campos are seen in it from October, 1723, to March 23, 1735. (Due to a long siege of illness, in 1731 (Nov.), they placed as a companion to him Padre Segesser who was with him until March 7, 1735. According to this same (document), Campos did the recording at the departure of Segesser."

Phelipe Segesser: (Segesser--Jesuit) (Felipe)

1. "It appears that he was the clergyman or curate of the town, as in the burial book there appear entries in his handwriting and signature from November 8, 1731, up to May 4, 1733.

SAN IGNACIO RECORDS (CONT.)

2. "In the baptismal book they are seen From Nov. 3, 1731, up to March 7, 1733. There is a note of July 13, 1733, by Padre Ministro Campos which says that due to a very long illness which he suffered, they lent him as a companion for the administration of the Mission, Padre Segesser, a Swiss, native of Lucerne, and he kept all these (records) and those of the other books mentioned."
3. For August 10, 1702, we see an entry by Pinart referring to "Fr. Franco. Gonzalvo, Minister of San Francisco Xavier del Bac". It is a burial notice of this Padre. There is a recent penciled notation here to the effect that Gonzalvo was not minister of San Xavier del Bac but that he merely came from a trip there. The entry goes on to say: "The Padre Augustin de Campos attests that on said day at about 4, after all sacraments being received by said Padre Gonsalvo, Valencian of 29 years of age, (he) died. He came from Spain together with this same Padre Campos. He became ill at San Ignacio in the house of Campos. He died of a cold, and in his right mind. He was buried in the presbytery (chancel) of the Church right near the Evangel (Evan.^o)."

"September 19, 1725: The Bishop of the Diocese and his Secretary Ber. Diego Gonzalez, visited the town and examined its ecclesiastical books and found them in good order."

"Jan. 2, 1732: The curate, Phelipe Segesser, buried Ambrosio, Padre Agustin's horticulturist (gardener); that a bewitcher had killed him with his deviltries as he himself confessed afterwards when he had been caught."

"Jan. 9, 1732: "Capⁿ (probably capellan, or chaplain) Don Juan Manuel Zelaya died today -- one who was married -- buried on the 10th."

"Dec. 19, 1737: The most illustrious Sr. Dr. Don Martin de Slizacocha Bishop of Durango, realm of Nueva Vizcaya, and of His Majesty's Council, visited, inspected the books, and approved them."

Gaspar Stiger: (Gaspar Steiger)

1. Gaspar Stiger, curate, Minister of the Gospel for H.M.; his signatures appear from May 4, 1736, up to June 27, 1756 (he was probably a Jesuit (Pinart)).
2. His signatures are seen again from Nov., 1758, up to April 25, 1760. (In the book of burials.) (In the baptismal book his last signature is September 26, 1761).
3. He died on April 24, 1762 (it is seen two pages further). It appears that he was on a visit in San Ignacio and officiated in some baptisms on Dec. 30, 1733. (In the baptismal book in a memo we observe intervals in which other padres officiated owing

SAN IGNACIO RECORDS (CONT.)

to the indispositions of Stiger which are explained in the certificate of his death and burial."

Joseph Och: Curate, Jesuit. (Father Joseph Och: - Bolton, P. 594.

1. His signature appears at the foot of several burial notices. (He was probably a Jesuit), from January 21, 1757, up to October 27, 1758.
2. In the baptismal book they are seen from Dec. 5, 1756, up to Dec. 20, 1758.

Jesus Franco. Pauer: Curate for H.M. (Jesuit)

1. His signatures begin from May 1, 1760 (continuing) up to Feb. 15, 1767. He was visiting on May 31, 1751; July 30, 1752, up to Dec. 28; also on the 4th, 6th, and 9th of Dec., 1753; 14th and 15th of April, 1754.
2. In the same book of baptisms they appear from Jan. 1, 1760 on, entitling himself the "Minister of the Gospel for His Majesty". continued in San Ignacio in October, 1761, and on August 25, 1762, up to March 12, 1767.

Padre Joseph Hoffenrichter: (Jesuit)

1. Luis Vivas attests: - "Rector of these missions of Pimeria that on said day (March 7?, 1762) died the above mentioned Padre in this (town) of San Ignacio; native of Wildstein in.....Bohemia, born on January 10, 1729, entered the Jesuit Order (Compania de Jesus) in 1754; came to these Pimerian Missions in 1761; he administered the Mission of Ati in the west where he became ill with fever and having suffered with other undetermined ills he came to this Mission to seek alleviation which he could in no manner give himself - Minister of pure conscience and exemplary life, was in righteousness on the most direct road to rejoice in his God.

"Buried in the Church of the Mission near by the Epistle (right) side of the Altar. ("Enterrado en la iglesia de la Mision al lado de la Epistola").

P. Gaspar Stiger: (Jesuit Minister of said Mission) (Gaspar Steiger)
(Note that this is second entry for Stiger by Pinart)

1. April 24, 1762, San Ignacio: He (Stiger) died on said day receiving all of the Sacraments about 2:00 P.M. Swiss by birth of the Diocese of Constance, he was born October 21, 1695; Secular cleric, was ordained as priest in 1719 on the Pentecostal

SAN IGNACIO RECORDS (CONT.)

- Sabbath (Whitsuntide). After being a curate for one year in his fatherland, he entered the Jesuit Order on October 9, 1725; upon his petition he went to the missions of the Indies in 1729; Aug. 1 appointed by the Superiors to the Mission of Carichigui in 1731 at the instance of the Most Illustrious Sr. Don Martin de Slizacocha (?), Bishop of Durango he was named the Vicar General (Provisar) to this new realm of Christianity of Upper Pimeria and the new mission of San Xavier del Bac "in which envious of the fact that the glory of God and the faith of Jesus Christ was advancing, the Devil harassed (?) the Indians with witchcraft that they should kill him, which they tried to do on three occasions and it would have been accomplished (save for the providence of God through Padre Agustin de Campos and although free from enchantment Stiger remained suffering all of his life and the three evildoers had a hapless end, the Devil carrying one off, another suddenly fell dead and the third was killed by his own relatives.
2. "In the year 1736 he entered obediently this Mission of San Ignacio which he found almost depopulated by the continual epidemics and highly dynamic fevers, but with all-encompassing charity he resettled the three towns with Papagos-----having found 10 families upon his arrival, he saw (later) more than 100 families."
 3. He was buried next to the super altar of the high altar just by the Evangelio. (The foregoing is attested to by the Minister of the Gospel, Francisco Pauerm Jesuit).

Ber. Joseph Nicolas de Mesa:

1. His signatures appear from Nov. 22, 1767, to April 13, 1768.

Pinart next lists an entry for December 24, 1767, which is a burial notice for the infant daughter of the Captain Dn. Juan Thomas de Beldarrain.

2. On April 13, 1768, Ber. Joseph Nicolas de Mesa makes an entry about the death of some girl children who were deceased without confession during the absence of the R. R. P. P. (probably the officiating priest). Mesa goes on to say that at this time unruly Indians attacked the town and killed two people who were buried without confession, in the church.

Fr. Diego Martin Garcia:

1. His signatures are seen (by Pinart) from May 31, 1768, up until January 23 of 1772.

SAN IGNACIO RECORDS (CONT.)

Fr. Fco. Sanchez Zuniga, Minister:

1. His first signature appears on January 23, 1772, up until March 28, 1780.

Fr. Ant^o. Ramos:

1. Officiated in this mission October 4 and November 9 of 1773.

M. R. P. Fr. Manuel Carrasco: (Dated San Ignacio, March 2, 1776)

1. "Certif. Fr. Fco. Zuniga (that) the Padre Carrasco died in that (obliterated word) about 3:00 p.m. in the town of Magdalena. He was minister of Tubatama; he was buried in the Chapel of San Xavier just by the Epistle (side of the chancel). He received all the sacraments with exemplary devotion."

Fr. Pedro Arriquibar: (Mntro. de doct^o. p. Smd)

1. His signatures are seen from April 16, 1780, up to the end of 1787 in which year this burial book ends.

Luis M^a. Gallardi: (Jesuit)

1. With permission of the proprietary Padre he officiated at a baptism on August 4, 1725; Feb. 7, and April 14 and August 3, 1727, are also seen. ("Con permiso del P. Mntro. propietario oficio en un bautismo 4 de Ag^{to}. 1725, 7 de Feb. y 14 de Abril y 3 de Agosto 1727 se ven tambien").

Inspection by Bishop of Durango:

"1725, September 17: Realm of Sⁿ. Ant^o. de Motepore. The Bishop of Durango, Dr. Don Benito Crespo, of the order of Santiago and of the Council of H. M. being in said Realm examined the books of the Mission of Sⁿ. Ign^o. presented to him by the Padre Joseph Agn. de Campos which he found in order. The Bishop was pleased to express to him in sincere manner his appreciation of the services which he had given in his ministry adding his apostolic seal his said certificate is signed by the said bishop, and by the Inspector- Secretary (de visita) Ben Diego Gonzalez Perianez."

Ign. Xavier Keller: (Jesuit Padre)

1. His signatures appear in the baptismal book from Oct. 8, 1732, up to April 10, 1735, and Oct. 24, 1741 - May 29, 1742. He styles himself the Minister of the Gospel of S. M. of the pimas.

SAN IGNACIO RECORDS (CONT.)

Miguel Capetillo: (P. Jesuita)

1. On July 26, 1734, he officiated here at a baptism.

Joseph Foral: (Clergyman)

1. With the permission of the Minister he officiated here at a baptism October 13, 1736.

Jacob Sedelmaier: (Jesuit Clergyman) (Sedelmayn *Bolton P. 435)

1. Officiated today at a baptism, Jan. 3, 1737; another time on Feb. 12, 1738 - May 7, 1739.

Joseph Xavier (or Savier) de Molina:

1. Jesuit Minister of the Gospel in the Dolores officiated in San Ignacio on July 22, 1737. He titles himself "Vicario Gen. (Vicar-General)" on Nov. 1740. He officiates at other times on May 12, 1742, and February 3, 1745.

Bishop of Durango Inspection:

1. San Ignacio, Dec. 19, 1737. On this day Martin, Bishop of Durango and his Secretary of Government and Inspection Dn. Pedro de Echenique(?), were in the Mission. After having inspected the books, sacred vestments and all of the rest (of the equipment) and having found them in perfect order the Bishop praised highly the merit and apostolic seal of the Padre Gaspar Stiger.

Alexandro Rapuani(?):

1. On April 17, 1740, he officiated at Several burials.

Lorenzo Ign. Gutierrez: (Mntro. por S. Magd.)

1. His signatures and handwriting are seen in the baptismal book from Nov. 28, 1740, up until October 11, 1741.

Bartholeme Saenz: Jesuit

1. He officiated here at Baptisms on May 24 and On June 3, 1749.

Miguel de la Vega: (Clergyman)

1. Officiated at a baptism April 12, 1750.

SAN IGNACIO RECORDS (CONT.)

Luis Vivas: Jesuit

1. On the 18th and 24th of March; and the 12th of May; 7th and 8th of October, 1753, he officiated at some baptisms with permission (con licencia) of the Minister; also on April 1, 8, 9, and 13, 1754.

Alonzo Espinosa: (Clergyman)

1. His signatures are seen from April 24 to July 14, 1754; again on Dec. 23, 24, 25, 1754; Feb. 11, 18, 1755; and from Feb. 25 to April 15, 1755.

Antonio Ma. Bentz: (Jesuit)

1. He officiated at a baptism on July 8 and 31, 1756; Aug. 1, Nov. 14, 1756.

Franco. Gutierrez:

1. Officiated at Several baptisms from Sept. 21 to Oct. 3, 1756. One on April 5, 1757.

Juan Anto. Zedano:

1. Officiated at a baptism Sept. 18, 1756.

Franco. Alava: (Jesuit)

1. Officiated at a baptism Nov. 21, 1756. Several in April, 1757.

Bernardo Middendorff: (Jesuit)

1. Officiated at Several baptisms October 31, 1756; again Dec. 6, 1758.

Ign. P. Jefferson: (Jesuit)

1. Officiated at a baptism Dec. 4, 1756.

Miguel Gerstner (Jesuit)

1. Officiated at a baptism Dec. 8, 1756, and January 2, 1757.

Inspection of San Ignacio:

1. November 13, 1761: Today the Padre Ignacio Lizafsvair (Pinart says, "tal vez la alta letra es n-- perhaps the tall letter is n-) of the Jesuit Order (Compania de Jesus), Inspector General

of the Missions of this Province of New Spain and Ecclesiastical Inspector-General of said missions pertaining to the Bishopric of Durango for its present Most Illustrious Sr. Bishop Dr. Dn. Pedro Tamarron - and Romeral of the Council of H. M., inspected this Mission, its sacred vestments (ornaments), book, etc. This document is incomplete - and from here, on, the rest of the pages of the book are missing.

(End of Pinart Summary)

*****OO*****

MAGDALENA

Magdalena was a visita of San Ignacio and for that reason it is important that summarization of its burial, baptismal and marriage records be considered with those of its governing mission.

Libro de Entierros: - Magdalena - 1702-1816; part 1820-1824; (Book of Burials).

Agn. de Campos:

1. In 1702, range Sept. 3 to Dec. 14, he officiates at 10 burials.
2. In 1703, range March 3 to Nov. 21, he officiates at 39 burials.
3. For years of 1704, 1705 and 1706 the year entries are seen but there appear no burial records.
4. In 1707, March 22, Campos makes a burial entry but it is unsigned.
5. In 1708, July 17 and 19, two burials.
6. In 1709 to 1718, inclusive, no year entries nor burials are seen.
7. In August, 1719, one burial entry, apparently by Campos.
8. Five entries a ll show Campos officiating, year 1720
 - a. The first of the entries says in effect that on January 20, 1720, a certain Felipe was buried beside the ones who in 1695 destroyed the towns they themselves had built up.

Notice that here we find entries for the period 1709 to 1718 which were missing from their proper place in the series.

9. In 1709, range Aug. 27-Nov. 30, Campos officiates for 21 burials. They are unsigned but are in Campos' writing.
10. In 1710, Jan. 1, Feb. 2, and Aug. 5, and other dates obscure, Campos officiates at eight burials.
11. In 1711, March 15; Kino burial notice; the only entry for the year. Campos officiates. (See copy of original record on Plate II of this Supplement).



Año 1811 =

Quince de Marzo poco antes de medianoche. Plaza
de los Toros. Plaza de los Toros. Edificio.
En la casa de los Toros. Plaza de los Toros. Edificio.
de los Toros. Plaza de los Toros. Edificio.

Padre: Virga de los Dolores fundada por el mismo
Cusebro: Peñal Blanco Incansable m. Continuas perel
Fran: Orinaciones y Peñal de toda esta P. a Desal
Kino: Brío Lacara Grande Brío de la y Glorados las
naciones Coman'copa y Sumas y los Quicamasopa
de la Isla y descansando en el esta enterrado
Encita Capilla Jes Fran. Xavier al lado del
Cuandio donde Caen las q. de la Villa en Arar
fue denaz en Alomar Delapxon. a quiperteneze la
Babiera Saumendo lido Antis de Embar en la P.
menia Misoreno Homografo en la California
En Kempo del Almirante D. Pedro de Ochoa

Justin B. Campos

MAGDALENA RECORDS (CONT.)

(Bolton's Translation of the Kino burial, taken from "Rim of Christendom")

"THE YEAR 1711

"Padre Eusebio Franco. Kino.--On the fifteenth of March, a little after midnight, Father Eusebio Francisco Kino died with great peace and edification in this house and pueblo of Santa Magdalena at the age of seventy years, having been for nearly twenty-four years missionary of Nuestra Señora de los Dolores, which he himself founded. He worked tirelessly in continuous pregrinations and in the reduction of all this Pimeria. He discovered the Casa Grande, the rivers Jila and Colorado, the Cocomaricopa and Suma nations, and the Quicimaspá of the Island. And now, resting in the Lord, he is buried in a coffin in this chapel of San Francisco Xavier on the Gospel side where fall the second and third choir seats. He was German by nationality and of the province to which Bavaria belongs, before he entered the Pimeria having been missionary and cosmographer in California, in the time of Admiral Don Ysidro de Otondo.

AGUSTIN DE CAMPOS (rubric)!"

Note:

The above translation reads ".....a little after midnight....." whereas the original burial entry reads ".....poco antes de media noche.." which would be ".....a little before midnight....."

It is interesting to note that Campos spells the name of the famous padre as "Quino" in the first few lines of his entry whereas in the margin we see the familiar "Kino".

A further observation of interest is the fact that Campos says Kino was of German nationality whereas it is now generally accepted that he was born in Italy but was educated and had taught in Germany.

13. January 1712 contains lengthy entry of burial by Campos.
a. January to December 16, fifteen more Campos entries.

14. January 5 to December 29, 1713, Campos writing, showing he officiated at 24 burials.

15. February 7 to July 9, 1714, four officiations by Campos signing himself Minister of the Gospel for H.M.

16. July 1 to Nov. 18, 1715, show 11 Campos entries with an additional Nov. 1 audit entry.

17. Feb. 9 to Dec. 7, 1716, Campos officiates for six burials.

MAGDALENA RECORDS (CONT.)

18. Jan. 20 to April 23, 1717, seven Campos entries.
19. June 1 to September, 1723, one entry by Campos.
20. January 15 to September 10, 1724, Campos enters 10 burial records.
 - a. The last four of the ten may not be Campos' handwriting.
21. Years 1725, 1726 and 1727 have the year entries but there are no burial records entered.
23. Three unsigned September, 1728, entries apparently in same handwriting as the last 4 entries for 1724.
24. For 1729 - 1735 no year entries are made and no spaces allowed. Record appears continuous as far as entering is concerned.
25. For 1736, all entries are for August-October, inclusive. These are unsigned but the handwriting is radically different compared with that of the 1728 entries. Possibility they are burials over which Stiger officiated. See (1) below.

Gaspar Stiger: (Gaspar Steiger)

1. For 1737, fourteen entries by Gaspar Steiger, "Muro de....por su Mgd", in same handwriting as the Aug-Oct. 1736 entries.
2. In 1738, Jan. 4-Nov. 21, seven Stiger entries.
3. July 10 - Dec. 21, 1739, officiates for four burials.
4. Jan. 19 - Nov. 2, 1741, officiates for four burials.
5. July 1 - Nov. 2, 1741, officiates for four burials.
6. February 3 - October 15(?), officiates for ten burials. (1742)
7. Jan. 12 to (obliterated), seven burials. (1743).
8. Feb. 6 to (obliterated date), eight burials. (1744).
9. Feb. 23 - Dec. 31, 1745, Stiger officiates in 22 burials.
10. Jan. 10 - Aug. 20, 1746; twelve Stiger entries.
11. Jan. 20 - Nov. 8, 1747; 23 entries.
12. Jan. 1 - Dec. 31, 1748; 18 entries.
13. Jan. 24 - Nov. 17, 1749; twenty-six Stiger entries.
14. Jan. 15 - Oct. 20, 1750; 18 Stiger entries.
15. Feb. 1 - Nov. 6, 1751; 12 Stiger entries.
16. July 25 and Dec. (?) 24, 1752; two Stiger entries.
17. Mar. 30 - Dec. 17, 1753; three Stiger entries.
18. Feb. 26 - Nov. 22, 1754; four Stiger entries.
19. Mar. 15 - Dec. 27, 1755; eight Stiger entries.
20. Feb. 18 - July 28, 1756; ten Stiger entries.
21. Aug. 1 - Nov. 4, 1756; 26 more.
 - a. First three are in different writing while remaining 23 are the same Stiger hand.
22. See Sept. 18, 1761, single officiation by Stiger.

MAGDALENA RECORDS (CONT.)

Entries for 1757:

1. Forty-four entries; Jan. 17 - Dec. 30, 1757; 32 of these are for November 3, 1757. A marginal entry reads "Las Cabezas y Chepillo. A badly faded and fragmentary entry as nearly as can be interpreted, reads: "On the 3rd of November.....Pima and Seri enemies.....burned the houses and.....the follow- were soon left dead....."
 - a. A list of the dead numbered consecutively from 1 to 32 then appears.
 - b. None of these 1757 entries seem to be in Stiger's handwriting.

Franco. Pauer:

1. Jan. 4 - Nov. (?) 1758; twelve entries; not in Stiger's writing but apparently in handwriting of Pauer.
2. Mar. 27, Sept. 10, and Nov. 14; three, unsigned, but apparently by Pauer.
3. Jan. 24 - Dec. 24, 1760; 11 with one signed by Franco. Pauer, "M. P. Su. M.")
4. Jan. 19 - Oct. 25, 1761; seven, with one for Sept. 18 officiated over by Stiger. 1762.
5. Jan. 14 - Nov. 28, 1762; 13 burials officiated at by Pauer.
6. Jan. 8 - Oct. 3, 1763; seven burials entered by Pauer.
7. April 4 - Nov. 20, 1764; 12 burial officiations by Pauer.
8. July 20 - Nov. 3, 1765; four by Pauer.
9. Jan. 7 & 28; April 7, 7, 10, 13 and 30; and Nov. 20, 1766; eight entries, all apparently in Pauer writing.

Entries for 1767:

1. It seems significant that no entries are made for this year nor was the entry "año de 1767" even made.

Entries for 1768:

1. "Having received on the 29th of June that which pertains to the Church of the town of Magdalena, visita of the one of San Ignacio which goes into effect on the first of June by order of beloved Sr. de Viceroy and desire of the governor and assignment of the Right Perfect Prefect (R.P.Prefect) of missions of propoganda of the faith of the College of Santa Cruz de Queretero, Fr. Mariano Antonio de Buena and Alcalde are going to put the (affairs ?) (obliterated word) in the order (last word obliterated but ends in "nre").
2. See 1768 entries by Garcia immediately following.

MAGDALENA RECORDS (CONT.)

Fr. Diego Martin Garcia: (Min. Por S. Magd.)

1. June 27 and October 19, 1768; two Garcia entries. It is interesting to note that these are numbered "1 & 2" showing that they are the first two entries after the change in administration.
2. Jan. 17 - Nov. 27, 1769, ten entries, numbered 3-12, by Garcia.
3. Jan. 3 - Nov. 9, 1770, twenty-six; #39-50; Garcia.
4. Feb. 21 - Dec. 10, 1771, twelve; #39-50; Garcia.
5. Jan. 5, 1772; one Garcia entry. See immediately below for further 1772 entries.

Fr. Franco. (fhz?) Zuniga: (Rank not given.) (or Zunida?)

1. Sept. 17 and Oct. 20, 1772; two entries.
2. April 23 - Nov. 7, 1773; four entries.

Fr. Manuel Carrasco: (Mno. por Su. Magd.)

1. Jan. 13 - June 25; and one later in 1774 too dim to read; five entries in all by Carrasco.

Apparently no 1775 entry:

1. Record #62 is the last one for 1774 while #63 is first entry for 1776.

Entries for 1776:

1. Seven entries, Mar. 22 - Aug. 28, by Fr. Franco. Zunida (or Zuniger)

Nota: (Pedro Font)

"Note that on this 16th day of November of 1776 at 8 (o'clock) in the morning, the enemy - Pimas and Seris-fell upon this town, Santa Maria de Magdalena; they killed the girl of the foregoing entry,they stole the sacred (word out) ornaments (or vestments); they outraged the church and sacred images; and finally carrying off (blurred words).....leaving the town and house of the Padre destitute and that it may be recorded it is signed by Fr. Pedro Font."

(The above is only an approximate translation due to fading and obscure words.)

MAGDALENA RECORDS (CONT.)

P. Franco. Zuniga: (or Zunida)

1. In 1777; two entries, June 19 and July 27.
2. In 1778; two entries of May 18 and June 13.
3. See below for two 1778 entries by Fr. Mathias Gallo.
4. In 1779, June 2; one lone entry styling himself "Mntro de la Mision".

Fr. Mathias Gallo:

1. In 1778; May 24 and May 28 entries. (See 3 above).

Fr. Pedro de Arriquibas: (Mntro. de Docta. P.S.M.)

1. In 1780; July 3 and Aug. 13; two. Arriquibas styles himself "Minister of the Gospel for His Majesty."
2. In 1781; Feb. 15 - Nov. 17; fifteen.
3. In 1782; Feb. 11; one only.
4. In 1783; six but dates too obscure to read.
5. In 1784; one in June.
6. In 1785; one on March 29.
7. In 1786; five from May 14 to 28th day of undetermined month.
8. In 1787; one on Jan. 15.
9. In 1788; one on June 20.
10. In 1789; three, two of which are Jan. 18 and Oct. 11.
11. In 1790; two; Aug. 30 and Sept. 2.
12. In 1791; entirely missing since from 1790 and 1792 entries begin without interruption on the same page.
13. In 1792; one on November 6.
14. in 1793; one on Jan. 7.
15. In 1794; ten between Jan. 16 and Nov. 30. Arriguibas styles himself "M.P.S.M." - Minister for His Majesty.
16. In 1795; entries lacking. On the same page entries continue uninterrupted from 1794 to 1796. "Año de 1795" appears but space for entries is blank.

Fr. Franco. Cobas: (Mnro de la Mision) - Minister of the Mission.

1. In 1796; three between Jan. 10 and Dec. 9.
2. In 1797; two, for Nov. 15 and Dec. 2.
3. In 1798; two for Jan. 27 and June 2.
4. In 1799; six for May 28; Aug. 23 and 27; Sept. 7; Sept. 15 and Oct. 17. Cobas styles himself "Minister of the Mission".

Fr. Joseph Perez: (Mnro) - Minister

1. In 1799; April 7; June 27 and July 15; Aug. 27; Sept. 9 and Sept. 9. Total, six. Perez styles himself simply "Minister".

MAGDALENA RECORDS (CONT.)

2. In 1800; one of undetermined date. Minister.
3. In 1801; five between Mar. 1 and Dec. 6.
4. In 1802; four between June 8 and Oct. 20.
5. In 1803; two for Feb. 3 and Aug. 27.
6. In 1804; four between Jan. 31 and Oct. 3.
7. In 1805; three for May 9, 15 and 22.
8. Perez signs none for 1806.
9. In 1807; four between Feb. 22 and Oct. 20.
10. In 1808; two for Mar. 12 and May 8.
11. In 1809; four between Mar. 28 and Sept. 9.
12. In 1810; six between Feb. 20 and Oct. 24.
13. In 1811; four between Feb. 14 and Dec. 26.
14. In 1812; two for Sept. 8 & 18.
15. In 1813; five between January 28 and February 14.
16. In 1814; four between Jan. 13 and Sept. 20; and one for Oct. 11.
17. In 1815; no Perez entries.
18. In 1816; one July 25 and two for Apr. 30 and May 4 and 12 in Aug.
19. In 1817; 1818 and 1819 entries missing.

Frr. Juan Gonzalez: (No title given)

1. In 1805, one May 26 entry.
2. In 1806; one June 6 entry.

Fray Josef Gomez: (No title given)

1. In 1806; one Sept. 14 entry.

Fr. Pedro Ruiz: (No title given)

1. In 1813; one Sept. 7.
2. In 1814; four between Sept. 24 and Dec. 21.
3. In 1815; 31 between Feb. 8 and Oct. 6.
4. Many of the 1816 entries mutilated or faded and it is barely possible that Ruiz officiated for some of the burials missing.

Fr. Saturino Anzeta (Nearly a s can be made out)

1. In 1815; four between Dec. 7 and Dec. 22.

Fr. Miguel Montes:

1. In 1816; approximately 75 entries Feb. 3 to Oct. 23, with most of them falling in August. The series runs to #289 on Oct. 23, at bottom of page, by Montes, then begins with No. 1 in entirely different handwriting on the following page.
2. In 1821; one Oct. 12 by Montes.
3. In 1824; Nov. 22, 21 and Aug. 1, three.

MAGDALENA RECORDS (CONT.)

Fr. Mariano Llobet: (No official title given)

1. In 1816; one Oct. 2.
2. In 1821; two Nov. 3 entries.
3. In 1822; four for Jan. 27; Sept. 23 and Oct 17, 17.
4. In 1823; one for Mar. 1.

Fr. Juan Bta. Estebric: (Estebric as nearly as can be determined)

1. In 1820, four from Oct. 10 to Nov. 25. Record incomplete and obscure. These records are divided between Magdalena and San Ignacio.

Fr. Juan Nuñez: (No official title given)

1. In 1822; three on June 28, Aug. 9 & 19.

The year 1824 ends these records as nearly as can be determined. For 1824, Fr. Miguel Montes signs two entries and writes the third one. However, very dimly beneath the clearly written Montes third entry the name "Fr. Franco. Nuñez" can be seen. It looks as if perhaps the sheets had earlier Nuñez entries on them, then later got wet almost entirely fading out the writing. The sheets then were apparently used later by Montes for his entries. Thus, perhaps earlier Nuñez entries occur on the same reused sheets.

End of Magdalena "Libro de Entierros" 1702 - 1816; part 1820-1824:

MAGDALENA

"Libro de Casamientos": Pt. 1822-1825. (Book of Marriages)

Attention is again called to the fact that Magdalena was a visita of San Ignacio. These dates together with padres officiating should be considered in connection with the Magdalena burial records just preceeding this "Libro de Casamientos" and those records for San Ignacio; these pages of the Marriage Book are incomplete because it is noted that a record ends at the top of the first page and the first complete record is dated July 29.

Fr. Franco. Nunez: (Comizo. Prefecto. de estas....Las Misiones")

1. In 1822, incomplete record shows three entries for July 29, Aug. 19 and September 2. The title above is found in the texts of entries themselves.
2. For 1823: - No spaces and no entries of any kind. The marginal numbering continues from 54 to 55 in passing from 1822 to 1824.

MAGDALENA RECORDS (CONT.)

3. In 1824; fifteen entries dated From June 10 to Dec. 1. All are over Nuñez's signatures but the entries themselves are in writing obviously not that of Nuñez. Perhaps the original Nuñez entries were becoming faded and some kind soul rewrote the texts to prevent total loss of the record.

4. In 1825; Jan. 8 to 19; seven Nuñez entries. He again styles himself "Comisario Prefto. de estas Misiones".

Fr. Miguel Montes: (Pred. Agco. por encargo)

1. In 1825; one entry for Feb. 7.

Fr. Juan Vano: (No title given)

1. In 1825; eight entries, June 2 - July 24.

End of Magdalena "Libro de Casamientos"; pt. 1822-1825.



CASA GRANDE WEATHER

By J. Donald Erskine

Mark Twain said something about everyone talking about the weather but no one doing anything about it. That is literally true here at Casa Grande especially during the extreme heat of mid-summer, but it might be of interest to put into a report some of the facts and remarks pertaining to the weather. Not only do we who work here talk about it, but it is the subject of very frequent questions and remarks by "dudes".

To those of us who live here in Southern Arizona one of the striking things concerning the temperature is the great range of temperatures between day and night. Every month in the year records "range" readings of over 40 degrees and about half the months will record readings of 50 degrees "range" or over. In our daily contact with that it means in other words that we are subjected day after day to great variations of temperature. This would be most welcome during the summer when the days register 115 and 116 in the shade to have the nights cool 40 or 50 degrees, but unfortunately the summer "range" readings are not as great as those during the other seasons of the year. The more frequent "range" readings at that season are between 30 and 35 degrees which results in the nights frequently being uncomfortably hot.

Dudes frequently ask at any season of the year: "How hot does it get here?" By that they usually mean the highest temperature recorded regularly. The correct answer to that would be anywhere from 112 to 116 degrees. The highest recorded temperature here is 117 degrees. During the past summer on June 18 the temperature reached 116 degrees, but there were 25 days during the summer in which the temperature was 112 degrees or above, and 11 days of 114 degrees or above. Considering the maximum temperatures for the months of June, July, and August, records over a period of eight years of observation indicate an Average Maximum Temperature of 103 degrees, whereas the corresponding months of 1936 show an Average Maximum Temperature of 106 degrees, so this past summer has apparently been excessively hot. The minimum temperatures during the summer months on the average run between 73 and 80 degrees with the highest recorded minimum temperature in 1936 being 83 degrees on June 23. This year June was by far the hottest month.

The Southern Arizona winters are most pleasant with day temperatures ranging between 65 and 75 degrees and the nights between 25 and 35 degrees. Killing frosts are apt to occur any time between November 1 and April 1. The record minimum temperature occurred during the winter of 1907-8 when the reading was 9 degrees. The last killing frost in the spring of 1935 was on April 10 while in 1936 it was April 2. The first killing frost in the fall of 1935 was October 31, while in 1936 it was November 3.

Our records on file here at Casa Grande are complete only for the years of 1935 and 1936, so statistical material for that period only can be presented; and even that is not entirely complete for comparison

CASA GRANDE WEATHER (CONT.)

because November and December of 1936 are still to be recorded. However, the comparisons available might prove interesting so some will be presented:

<u>Annual Mean Temperature</u>		<u>Highest</u>	<u>Lowest</u>
1935	66.8 degrees	110 - Aug. 20	20 - Jan. 21
1936	70 " (Approx.)	116 - June 18	19 - Jan. 20.

The monthly and annual mean temperatures considered "normal" are as follows:

<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Annual</u>
49.8	53.3	60.2	66.1	72.7	82.6	89	88.5	82.6	69.1	58.4	49.4	69.3

As explanation, the mean temperature is the sum of the mean maximum and the mean minimum temperatures divided by two.

Boiling these facts down a little will disclose that there are four months (May, June, July, and August) in which the mean maximum temperature exceeds 100 degrees. Thus there are four months of unpleasantly hot weather. There are two more months of weather that would be considered hot any place else, and there are six months of cooler weather with an occasional hot day thrown in.

Rainfall at Casa Grande is spread over the whole year with April being the month of least rainfall. The year of greatest rainfall was 1914 when 16.08 inches fell. That of least rainfall is somewhat in doubt, but 1935 with only 6.14 inches appears to be correct. So far this year with a little more than a month remaining to be recorded the rainfall slightly exceeds eight inches. The average annual rainfall is about 10.50 inches. Especially during the summer months our rain comes in little local showers with plenty of thunder and lightning. Because of the local character of our storms, variations in the annual rainfall between spots only a few miles apart may be several inches. One storm was spread over a large area and did considerable damage. The storm broke about 7 p.m. and rain fell in sheets accompanied by a wind which, according to the Phoenix Weather Bureau Station, at times exceeded 50 miles per hour. This continued for about five hours and 2.00 inches of rain was recorded. This storm did much damage to the ruins. Fortunately, however, most of the major damage was confined to the small buildings and the Casa Grande itself escaped serious damage.

The tabulation of rainfall for the past two years is as follows:

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>April</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>Aug.</u>	<u>Sept.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>
1935	.52	.53	1.42	.00	.11	.00	.01	.61	.67	.00	1.03	.24
1936	1.13	1.63	.34	.00	.01	T	3.00	.54	.71	.51	1.01/	?

CASA GRANDE WEATHER (CONT.)

So that an idea as to the character of our days may be obtained, the following tabulation of days in 1935 and 1936 as to character follows:

	Clear		Partly Cloudy		Cloudy	
	1935	1936	1935	1936	1935	1936
January	17	16	9	9	5	6
February	--	14	--	9	--	6
March	17	20	6	5	8	6
April	27	21	0	8	3	1
May	24	19	2	12	5	0
June	30	19	0	8	0	3
July	20	14	7	14	4	3
August	17	20	11	11	3	0
September	17	21	10	7	3	2
October	23	20	4	5	4	6
November	15	20	6	6	9	4
December	14	--	15	--	2	--
Totals	221	204	70	94	46	37

Note that the figures for February, 1935, and December, 1936, are missing.

The only other phenomena to be considered in this report is that of wind. As I write this the wind is blowing hard from the east and it has been doing so for over two weeks continuously. We have no wind velocity gauge here, so we have no records of that, but from personal observation and from "remarks" noted on our weather records by previous observers it seems to the writer that at least two or three days of high wind may be expected every month of the year. The prevailing direction of wind is from the southwest, but frequently, and especially at times of high wind, the direction is from the east. In fact, the wind is liable to blow from any direction except north. This observer knows of no case in which the wind blew from the north for more than a few minutes at a time. When the wind velocity is high, it brings itself to our attention very forcibly because of our need to keep the houses as open as possible in order to take advantage of every opportunity for cool air. Also sleeping out at night in summer makes the dust a problem and many nights when a sudden storm comes one can see flashlights in our residence area beating a hasty retreat into the protection of the houses.

Southern Arizona with its extremely low humidity is noted for being good for people suffering from lung ailments. But the extreme dryness and frequent dust and pollen-laden air seems to be quite irritating to at least some people afflicted with nasal or throat difficulties.

In short, we have our nice weather in the winter, our unpleasant weather in summer. We grumble at the unpleasantness of the heat and dust

but we manage to live here, and in comparison with weather conditions in other sections of the United States we can't complain too much. But, while Mark Twain may still be right about not being able to do anything about the outside weather, modern engineering is advancing so fast that one cannot be too sure that air conditioning of all buildings may not be just as common in the future as is heating of our houses today.

MORE ABOUT ALCOVES By Martin O. Evenstad

I read with much interest your article in the August Supplement on "Tumacacori Alcoves or Transepts". The opinion you advance coincides closely with certain theories I have had on the same subject, although probably arrived at from different angles.

The theory of a radical change in the church, while it was under construction, never did appear reasonable to me, unless non-availability of certain needed materials, originally planned, would force a change. This would not be the case here, as there would be nothing to interfere, as far as materials were concerned, with the construction of alcoves, if it were feasible to construct a building of this type, in the first place. Any other theory, other than discovery of lack of planned materials, after construction work had begun, would presuppose lack of planning and engineering ability, on the part of the Padres. This would have to be discarded, for the Padres certainly did demonstrate their ability as engineers and construction men.

During the years 1767-69, a decided change in the administration of the Mission system took place. The Jesuits were recalled by the Spanish King, and Franciscans were sent over to replace them.

The Apaches raided and partly destroyed Tumacacori in 1769. We must assume that on account of the limited time in which to operate before a counter attack could be organized against them, the Apaches would be unable to completely demolish a substantial building, such as a church built of adobe. The destruction was, most likely, limited to burning the wooden roofs of the various buildings in the Mission village, and inflicting such minor damage as was possible in a surprise raid. No doubt, a goodly portion of the original church would remain standing.

When the new padres came to Tumacacori, they were confronted with the problem, of again providing the natives, with a place of worship. They could do either of two things: build a new church, or repair and remodel the old. The salvage value of the old structure would, undoubtedly, govern their decision.

From the time of the Apache raid until the new priests started building their church, there was, I believe, a lapse of about 12 years;

sufficient time to allow some weathering of exposed walls; perhaps enough to cause a partial collapse of the alcove walls, so as to make it impractical to attempt to repair them. This would seem a pretty good reason for leaving out the alcoves, at this time.

Another reason, may have been a desire to keep from redesigning the old Jesuit church. The Jesuits were in disgrace, and this fact could have influenced the Franciscans in rebuilding, and caused them to make material changes in the ground plan of the layout of the old church. At any rate, it seems more reasonable to assume that there was a change in the reconstruction of an old building, than to assume that a change was made in a new structure, after being partially completed.

The above is, of course, just a theory I have, which is based mainly on an opinion of the need, in those pioneering days, of being practical, and that a keen sense of utilization would inevitably develop in men, who were confronted with problems, such as faced these men at every turn. This is also the first time I have set these thoughts down on a typewritten page, but you will recall that I have advanced something along this line before.

We had the pleasure of a visit from Bob Rose, with family, and Bob said he was on the track of something that would either prove or disprove theories like the above.

We are all enjoying this place very much, and appreciate being given the opportunity to come here. However, both Ethel and I still like to read the Southwestern Monuments report with Supplement, and hope that the Broadcast will soon be due again.

With personal regards to yourself and the Southwest family, I will say Adieu.

***** * * * *****

EARLY HISTORY OF MOCCASIN By Leonard Heaton

Just when Moccasin Spring received its name is not known but it was probably before 1865 as it was in that year that whites first settled at the spring. A local story is that some white man whose name has not been remembered found a Navajo moccasin near the spring.

During the spring or early summer of 1865 a man, name unknown, passed by the spring and went on to the Cannon Ranch, then owned by Mr. William Maxwell, and told Maxwell that he intended to take up a claim at Moccasin. Maxwell immediately sent his oldest son over to the spring to lay claim to the land and later the wayfarer was forced to pay \$200 for the property. This unknown man built the first cabin at the site just west of the spring and lived there for about eight years. Mr. Christian Hanson Larson

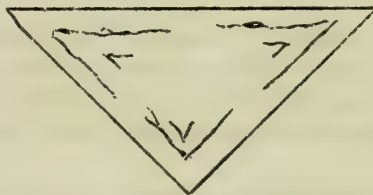
BRIEF HISTORY OF MOCCASIN (CONT.)

purchased the claim in 1874, kept the place for two years, then sold out to Messrs. Allen and Webb.

Allen and Webb farmed the land until they joined the Mormon Church at Orderville; at that time the United Order was running full blast and the Moccasin property was turned over to the Order. While Allen and Webb were residing at Moccasin two log cabins were built on a sand ridge about two miles east of the spring. Not one of the three cabins stands at present; one fell because of decay in the timbers; one was burned; and the third was demolished in 1904. The irrigated farm lands below the spring were used to raise sorghum, fruits and grapes for the Order and Moccasin became well known for its good sorghum and melons; even today the expression "Moccasin Melons" is often heard.

The five Heaton Brothers, then members of the Order, had been working the ranch for about two years at the time the Order was disbanded and received the ranch as their share of the property controlled by the organization. Later Jonathon Heaton purchased his brothers' shares and the ranch has been owned by Jonathon and his sons since 1893. Today there are nine nice homes and several outbuildings for the ranch at the townsite.

Paiute Indians were induced to farm the area during the period that the United Order had control of the spring and farm lands. The Indians received one-third the flow of the spring and ten acres of arable land; the foreman of the ranch was delegated to teach the Indians the art of farming. This arrangement was continued until 1908 at which time the Kaibab Indian Reservation was created and the Indians were moved to a new location two miles south and one mile east. At the time the reservation was made there were more than one hundred twenty Paiutes in the group: today there are but sixty. The reservation is twelve miles by eighteen in area, bounded by the Kanab Creek on the east and the Utah State line on the north. The Paiutes do very little farming today but raise some livestock.



RUMINATIONS

Johnwill Faris struck a note which has been ringing in my ears ever since his monthly report came in. It has to do with the stabilization of ruins.

It seems terribly hard to work up much interest in the repair and protection of prehistoric ruins, and I don't quite know why. Possibly it is because we are all prone to get into a rut and not look out much over the sides of it. A good many years ago we got into the road building rut and now we can look straight down that run and not bat an eye over a proposed expenditure of a half million dollars. On the other hand, if we look out sidewise and see the need of expending a hundred thousand dollars in ruins repair and stabilization we get in quite a dither about it and have to expert it for several years with engineers, archaeologists, Branch of Plans and Design men and a lot of other specialists to see if we can't whittle the sum down to the vanishing point or prove that it is all a mistake and six hundred year old walls don't need any repairs.

Looking back at it, I can remember what a ruckus was raised when it was proposed to allow automobiles to enter our national parks and I recall that it took quite an educational campaign before that new idea was brought to pass.

I suppose just such an educational campaign will be necessary to convince every body concerned of the need of a regular item in our budget for the stabilization of ruins and the last five or ten years that we have been hammering on this question have not been wholly wasted but are just the preliminary steps in this campaign. It is true that we have been getting about a thousand dollars now and then for this purpose, but with about three hundred ruins to take care of the three and a third dollars per ruin doesn't really do much toward stopping erosion, getting drainage, underpinning walls, and so on. It will take real money to handle this situation just as it takes real money to handle our road situation in the parks.

Cordially,

The Boss

SOUTHWESTERN MONUMENTS MONTHLY REPORT

DECEMBER, 1936



DEPARTMENT OF THE INTERIOR
NATIONAL PARK
SERVICE

REPORT ON THE PROGRESS OF THE WORK OF THE NATIONAL MONUMENTS COMMISSION

FOR THE YEAR 1904



DEPARTMENT OF THE INTERIOR

NATIONAL PARK

COMMISSION

SOUTHWESTERN MONUMENTS

DECEMBER 1936, REPORT

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SOUTHWESTERN MONUMENTS

PERSONNEL

HEADQUARTERS, Southwestern Monuments, Coolidge, Arizona: Frank Pinkley, Superintendent; Hugh M. Miller, Assistant Superintendent; James Luther, Chief Clerk; J. H. Tovrea, Assistant Engineer; Robert H. Rose, Assistant Park Naturalist; Charlie R. Steen, Junior Park Naturalist; Millard Singerman, Clerk-Stenographer; Luis Gastelum, and W. H. Sharpe, ECW Clerks.

FIELD STATIONS:

1. Arches - Moab, Utah. J. M. Turnbow, Custodian.
2. Aztec Ruins - Aztec, New Mexico. Thomas C. Miller, Custodian.
3. Bandelier - Santa Fe, New Mexico. Jerome Hendron, Acting Custodian.
4. Canyon de Chelly - Chin Lee, Arizona. Johnwill Faris, Custodian.
5. Capulin Mountain - Capulin, New Mexico. Homer J. Farr, Custodian.
6. Casa Grande - Coolidge, Arizona. A. T. Bicknell, Custodian;
J. Donald Erskine, Ranger.
7. Chaco Canyon - Crownpoint, New Mexico. T. C. Miller, Custodian.
8. Chiricahua - Willcox, Arizona. Frank L. Fish, Custodian;
Homer Bennett and Bronson Harris, CCC guides.
9. El Morro - Ramah, New Mexico. Robert R. Budlong, Custodian.
10. Gila Cliff Dwellings - Cliff, New Mexico. No Custodian.
11. Gran Quivira - Gran Quivira, New Mexico. Geo. L. Boundey, Custodian.
12. Hovenweep - Cortez, Colorado. No Custodian.
13. Montezuma Castle - Camp Verde, Arizona. M. L. Jackson, Custodian;
Russell Farmer, Ranger.
14. Natural Bridges - Blanding, Utah. Zeke Johnson, Custodian.
15. Navajo - Kayenta, Arizona. John Wetherill, Custodian.
16. Pipe Spring - Moccasin, Arizona. Leonard Heaton, Acting Custodian.
17. Rainbow Bridge - Rainbow Lodge, Arizona, No Custodian.
18. Saguaro - Tucson, Arizona. No Custodian.
19. Sunset Crater - Flagstaff, Arizona. J. W. Brewer, in Charge.
20. Tonto - Roosevelt, Arizona. James D. Harritt, in Charge.
21. *Tumacacori - Box 2225, Tucson, Arizona. Louis R. Caywood, Custodian.
22. Walnut Canyon - Flagstaff, Arizona. Milton Wetherill, in Charge.
23. White Sands - Alamogordo, New Mexico. Tom Charles, Custodian.
24. Wupatki - Flagstaff, Arizona. J. W. Brewer, in Charge.
25. Yucca House - Cortez, Colorado. No Custodian.

* James Felton, Park Ranger

CONDENSED REPORT

IN WHICH WE GIVE THE HIGHLIGHTS OF THE MONTH

Coolidge, Arizona
January 1, 1937

The Director,
National Park Service,
Washington, D. C.

Dear Mr. Director:

The Condensed Report on Southwestern Monuments activities for December:

<u>TRAVEL</u>	<u>December, 1936</u>	<u>December, 1935</u>	<u>December, 1934</u>
Aztec Ruins	576	391	336
Bandelier	227	130	214
Canyon de Chelly		23	3
Capulin Mountain	800	500	400
Casa Grande	3,052	2,135	2,463
Chaco Canyon	220	330	---
Chiricahua	273	120	---
El Morro	75	---	---
Gran Quivira	174	200	188
Montezuma Castle	512	568	775
Pipe Spring	105	214	274
Saguaro	767	---	---
Sunset Crater	141	55	53
Tonto	252	362	266
Tumacacori	1,375	1,311	738
Walnut Canyon	280	283	122
White Sands	3,864	1,840	---
Wupatki	108	63	42
Actual Reported			
Registration	12,801	8,525	5,874

Several times during the past year travel to the Southwestern Monuments has seemed to be remaining constant; at such time the headquarters staff have leaned back in their collective chairs, smiled complacently, and thought, "Aha, travel has now reached its peak. Perhaps we shall have a period of a few years during which we can build up the administrative personnel of the various monuments and take care of a lot of ruins which are falling apart due to the hordes of visitors which walk through them each year." As soon as such a pleasant state of mind had been reached, however, a month like December rolls around.

Now everyone knows that December is a holiday month. People are busy

CONDENSED REPORT (CONT.)

doing their Christmas shopping. Roads are bad and the weather is threatening. A snow may fall at any time and only a darned (polite use of the term) fool will get away from the towns and off the paved highway to go poking around through a lot of cold ruins. That is, everyone except about thirteen thousand people knew it. Travel to the monuments was nearly fifty percent heavier this December than last and more than double the traffic during 1934. A few light rains and snows made the roads rough but not impassable. Since the reports were mailed to this office a storm of major proportions has swept the plateau region and some stations are no doubt snowed in.

PERSONNEL CHANGES

- December 1 - Custodian Robert R. Budlong transferred to El Morro National Monument.
- December 1 - Custodian Johnwill Faris transferred to Canyon de Chelly National Monument.
- December 1 - Custodian T. C. Miller transferred to Aztec Ruins National Monument.
- December 10- Ranger James Felton appointed to Tumacacori National Monument.
- December 15- W. J. Winter resigned as Custodian of Casa Grande National Monument.
- December 20- A. T. Bicknell transferred from Custodian, Craters of the Moon National Monument, Arco, Idaho, to similar position, Casa Grande National Monument.

100 ADMINISTRATIVE

123 INSPECTIONS BY PARK SERVICE OFFICERS

Gran Quivira - Engineer Stuart, Yellowstone National Park; J. B. Hamilton.

Saguaro - W. J. Winter; J. D. Erskine; Dr. W. B. MacDougal; Charlie Steen; Earl Jackson; and J. W. Hendron.

El Morro - J. W. Hendron.

Bandelier - Charles Richey; J. B. Hamilton; A. E. Underhill.

White Sands - A. E. Underhill.

Tonto - J. W. Hendron.

Chiricahua - Charles Richey; Clinton Rose; Architect Eastman, ECW; George N. Keller; J. W. Hendron.

Tumacacori - Dr. H. C. Bumpus; Paul Beaubien; Charlie Steen; J. W. Hendron; Dr. W. B. MacDougal.

Wupatki - Vincent Vandiver; Milton Wetherill; J. W. Hendron.

Yucca House - T. C. Miller.

CONDENSED REPORT (CONT.)

200 MAINTENANCE, NEW CONSTRUCTION, ETC.

210 MAINTENANCE

Walnut Canyon - Trail maintenance and improvement was carried on throughout the month by the trail foreman.

Tonto - Trail was maintained during the month. The entrance road is still in a very bad condition. No improvement has been made to the road since it was constructed in 1929; it has been subjected to washing in addition to normal wear and presents very bad driving conditions. Jagged rocks cover the road over its entire length and in places ruts are more than a foot deep.

220 IMPROVEMENTS

Aztec Ruins - Native shrubs have been planted around the parking area and the museum. Natural gas has been installed in the custodian's residence and in the administration building.

230 NEW CONSTRUCTION

Bandelier ECW

Construction and interior carpenter work completed on Quarters #2. Four crews have been busy during the month planting and landscaping around the museum, residence and camp ground areas.

Work started on road surfacing project.

Another steel fire lookout ladder has been made and will be placed soon.

A small quantity of building stone has been quarried and shaped. Carpenter crew busy constructing museum cases.

Flood diversion channels and ditches to protect the new hotel development were made.

Logs have been hauled from the Ramon Vigil Grant and cribbed for seasoning. A total of 230 logs have been secured; these average 30 feet in length and eight inches top diameter.

Casa Grande - Work started on the new sewage disposal plant. The project should be completed during January.

Chiricahua -

Massai Point-Balanced Rock trail continued 1500 feet

Sara Deming-Balanced Rock trail, 700 feet

One half mile of the Rhyolite and one mile of the Sara Deming trails maintained.

Headquarters Ranger Station 99% complete.

Equipment shed 95% complete.

Some landscaping in the headquarters area.

Maintenance on the Massai Point road.

White Sands - Walls of the parking area are nearing completion; the ranger's residence and administration building are progressing rapidly. Work is also being carried on the road into the sands.

CONDENSED REPORT (CONT.)

300 ACTIVITIES OF OTHER AGENCIES IN THE MONUMENTS

320 COOPERATING GOVERNMENT AGENCIES

Chaco Canyon - To date the Soil Conservation Service has planted 37,830 native trees along the Chaco Wash. 31,580 willows, 2,000 wild plum, 3,000 broad leaf cottonwood and 1,250 narrow leaf cottonwood have been set out. Rodent control has been continued on the dikes constructed by the SCS.

400 FLORA, FAUNA, ETC.

Saguaro - Dr. W. B. MacDougal, Regional Wildlife Technician, spent a week at this Monument determining the extent of various types of plant life.

Pipe Spring - Between 3,000 and 4,000 Rainbow and Eastern Brook Trout have been placed in the two ponds south of the Fort. These fish were obtained from the Mammoth Hatchery, Utah.

Several hundred rock-rose and shad-scale plants have been transplanted near the Fort. This was done with the help of CCC enrollees.

480 MISCELLANEOUS

MAIL COUNT

Incoming Mail:

Personal	1,666
Government	<u>1,321</u>

Total incoming	2,987
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Outgoing:

Government only	<u>1,701</u>
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Total Mail	4,688
------------	-------

Telegrams:

Incoming	43
Outgoing	<u>30</u>
Total telegrams	

	<u>73</u>
--	-----------

GRAND TOTAL	4,761
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Cordially,

FIELD REPORTS

FROM THE MEN ON THE JOB



SAGUARO

By Paul Beaubien, Ranger in Charge

298 visitors were contacted at the ranger station, while 767 were checked at the Speedway entrance by the CCC boys. As the checker leaves just before 4:00 o'clock, there were probably 1,000 people to visit the monument.

Park Service visitors included Mr. and Mrs. W. J. Winter, with Mrs. Winter's father, Mr. and Mrs. J. D. Erskine, Dr. W. B. McDougall, Charlie Steen, Earl Jackson, and J. W. Hendron. Chaplain Victor R. Stoner was here most of the day. Once during my absence, somebody registered with a signature a lot like Hugh Miller's, but I don't know who I missed.

Dr. McDougall spent several days studying the plant life of the 99 square miles included in Saguaro National Monument. I accompanied him on one trip (and one mountain climbing trip will last me for a long time) when he climbed into the juniper-oak belt of the Rincon Mountains. Many interesting plants were seen above the saguaro zone, but of particular interest to me were the numerous rainbow cacti which seemed to accompany a small specie (shotii) of agave. When I arrived last year, I found several rainbows which had been transplanted close to the ranger station. Being informed they did not belong on the monument, I divided them between Tumacacori and Fort Lowell. But now I can have them in my outdoor museum.

Said museum isn't what it used to be, since a "drunk" drove through it a couple of times.

*****OO*****

EL MORRO

By Robert R. Budlong, Custodian

Travel to this Monument during the month of December rather surprised us. A total of 75 persons visited the Monument. Thirteen of these did not receive guide service. One group of these arrived at the Monument during the only time that the HCWP and I were away from the Monument together. We had gone to town for supplies. Five persons in one group inspected the inscriptions on the north face of the rock before coming to the cabin to register. The remaining visitor not receiving guide service was a TWA pilot taking photographs of the Rock.

Guided trips were as follows: Total guided trips, 17; total time, 1,395 minutes; total persons, 62; average time per trip, 82 minutes; average number of persons per group, 3.6.

Two types of guided trips were given: Guided trips to Inscription only, and guided trips over the trail and to Inscriptions. These trips were made as follows:

Inscriptions Only:

Number of trips	11
Number of persons	46
Total time	915 minutes
Average persons per group	4.1
Average time per trip	83.2 minutes

Trail and Inscriptions:

Number of trips	6
No. of Persons	16
Total time	480 minutes
Average persons per group	2.6
Average time per trip	80.0 minutes

It is interesting to observe that trips to inscriptions only averaged 83.2 minutes each, while trips over the trail and to inscriptions averaged LESS time: 80 minutes each. There seem to be several reasons for this. After hiking over the trail, the average visitor is rather tired, and somewhat cold, and does not seem to be willing to devote so much time to the inscriptions. He seems more interested in getting back to his car and sitting down. Visitors who see the inscriptions only, do not get so tired, and those who are interested wish to spend more time in discussions of numerous matters of general interest.

A number of this month's visitors were local people, apparently interested in meeting the new Custodian and the HCWP. The majority, however, were visitors making their first trip to the Rock. The longest guided trips for the month were: one of four hours; one of two and a half hours; one of two hours.

Weather during the month has been most unusual for this time of year. There has been but little snow, and roads have generally been in good condition. Snow fell on November 21 and 28, and on December 1, 4, 5, 16, and 17. Greatest fall was five inches, on the 5th. While we have no weather bureau station here as yet, local people have reported temperatures of ten degrees below zero in early mornings during the early part of the month. More moisture is needed, the ground being quite dry. Water in the pool is getting low.

During the month another domestic cat, gone wild, was donated release from the monotony of existence, and the wildlife grows less wild in consequence.

EL MORRO (CONT.)

The new pickup has not yet arrived. After Doug Harritt (who brought us here in the de Chelly pickup) had departed, we anxiously awaited each mailday, hoping for word that the new pickup was awaiting us in Gallup. I had left my own car at de Chelly for needed repairs, so we had no transportation. Our food supply gradually dwindled, and finally, when we received word on December 12 that the new pickup could not be delivered in Gallup until December 29, we found our food supply consisting of half a sack of flour and two cans of pineapple, plus some Christmas cookies. I decided to get to de Chelly at the first opportunity, and get my car, which had been repaired. As luck would have it, the following day Jerome Hendron from Bandelier drove up, on his way to Gallup and de Chelly. After a very pleasant visit with him, he and I departed for de Chelly, arriving there that night. Johnwill put us up for the night, and the following morning was devoted to getting my repaired car ready for the trip, the afternoon being spent going over various matters relative to de Chelly. I left there about dark that evening, got twelve miles out, and a corroded battery cable shorted and blew every light in the car. To put it briefly, I practically walked the car to Ganado, 45 miles from Chin Lee. That seemed easier than carrying it. The night was dark, with a threat of snow, and I would stop the car, walk ahead a few hundred feet to make sure the road didn't turn any corners (the road lies along the edge of the mesa, with splendid drops of several hundred feet on one side, and deep ditches on the other), walk back to the car, drive the distance I had walked, and repeat the process. A hand flashlight wasn't of much use. I managed to get within eight miles of Ganado when another car met me, and lighted my way to Ganado, where I spent the night. Next day I reached Gallup without difficulty, had new battery cables installed, loaded the car with provisions, and reached El Morro, to find that the HCWP had existed on Christmas cookies during my absence. We promptly celebrated the occasion by consuming a huge steak and a variety of fresh vegetables. I think the HCWP has lost her appetite for Christmas cookies for some time to come.

Employees at the Department of Commerce airfield a few miles distant inform us that they keep both snowshoes and skis on hand, to enable them to get out for supplies in the event of heavy snows, so we are stocking the cabin with supplies to last us for some months in the event we have much snow. As a result, we are somewhat cramped for space, and have to back out of the door, being unable to turn around once we have entered. I think we would both make expert packers of Norwegian sardines, after so much practice.

With Christmas just around the corner, both the HCWP and I take this opportunity to wish the rest of the Southwestern Monuments group a very happy Christmas and a New Year crammed with visitors.

*****OO*****

GRAN QUIVIRA

By George L. Boundey, Custodian

Visitors for December, 1934.

Although not great in number, we have had some very interested visitors this month. The major portion of the month has been cold nights and clear days with only two snows of any importance.

We enjoy our bird neighbors very much; they drink more than thirty gallons of water a day and are becoming very tame. We also found it necessary to provide a private cemetery for cats.

Our highway prospects looked very good for a while but now the work has been discontinued, but we hope it is only temporary.

We enjoyed a visit with Engineer Stuart and family from Yellowstone National Park. They were on the way to Deming to spend the Holidays with relatives.

We notice quite a few Golden Eagles in the vicinity, evidently a pair with three or four young birds.

I forgot to get a list of those bitten by rattlesnakes but the wife says Miss Mildred Freeman down at the village told her of these six. A Mr. Boggus, Elaine Ladd and a boy named Petross (still badly crippled) from Claunuch seven miles south of us. Iva Lee Russell, Gran Quivira, a farm hand near Round Topp six miles north; a Mexican girl bitten twice and treated by our county nurse near Willard; all but the Petross boy have recovered.

Engineer Hamilton also made us a short visit the fore part of the month.

*****00*****

BANDELIER

By J. W. Hendron, Acting Custodian

Visitors:

Our total visitors for this month numbered 227 people arriving in 80 cars from 14 states, Canada, Mexico, and England. Out of this number 28 were return visitors.

Weather and Roads: Days partly cloudy-----12
Days cloudy ----- 3
Days clear -----16
Maximum temperature -----49 on Nov. 28.
Minimum temperature -----16 December 11.
Mean maximum -----40.5
Mean minimum -----24

BANDELIER (CONT.)

Precipitation ----- 1.3 against 1.94 for Dec., 1935.
Snow ----- 2.1

The entrance road is in fair shape at the present time, precipitation being slight this month, and I think that is exceptional for Bandelier at this time of the year.

Visitor Trip Chart

Twenty-eight parties took guided trips making a total of 81 people with an average time per party of 81.5 minutes. Only one individual was given a short lecture which lasted 35 minutes.

Special Visitors

December 1 - Chuck Richey and J. B. Hamilton were out for a few hours on business. December 8 - A. E. Underhill was in for a short stay. December 9 - J. B. Hamilton arrived to confer regarding the new entrance road. December 15 - O. H. Reddoch, Assistant Director, ECW, Washington, was out on an inspection trip. December 20 - Director Hunter of Federal Art Projects was out from Santa Fe for a short visit.

General

To be truthful about this whole report I'm sitting here in the office at Headquarters pounding it out. The answer is that I had all of the dope sent down here airmail from Bandelier.

I could sit and write a great number of pages about my trip to Headquarters and some of the Southwestern Monuments, but I won't; I'll just hit a few of the high shots. It just so happened that I was fortunate enough to be here in time to be the best man at Bill Sharpe's wedding and I feel bad because he said that he was the best man, and then to top it all off, just as Bill and his bride were making their getaway Hugh Miller whispered in my ear, "Always a best man but never a groom."

I left Bandelier on December 9, too early I would say, but I had some business to take care of that had to be done for the Museum. Several days later I proceeded to El Morro where I met Budlong and his wife. Bud accompanied me to Canyon de Chelly and took great pride in waking Johnwill up in the middle of the night. Johnwill seemed to be pleased with de Chelly but he should have been very displeased with we two uninvited guests.

Wupatki was the next stop and I was cordially received by Jimmy and Mrs. Brewer who insisted that I should be a guest at their Xmas party for the Navajos that evening. The party was a huge success and several attended who were not even invited, so I was told. This was a treat for me, never having eaten in a Navajo Hogan before. The next day Jimmy and Sally

BANDELIER (CONT.)

went with me to Sunset Crater which was most interesting. As bad as I hated it I had to be on my way to Walnut Canyon. Unfortunately Milton Wetherill twisted his neck in an automobile accident and I didn't get to see much of him.

My next stop was Montezuma Castle, where I met Custodian Jackson and Ranger Farmer. I took one of the guided trips and enjoyed myself immensely. From Montezuma I went to Tonto, arriving sometime after dark, waking up Doug Harritt from some sort of an interesting magazine. The next day bright and early in the morning I was escorted around the ruins, and then after a long conflag on archeology and the like I was on my way again.

Fortunately, I was able to see Earl Jackson in Tucson and I haven't seen him looking better in a long time. He tells me that he is feeling a great deal better than he did and is ready to go back to work so here's wishing him all the luck in the world. Earl accompanied me to Saguaro where we met Paul Beaubien who gave us a most interesting lecture on Arizona cacti. From here I went to Tumacacori. It happened to be Louie Caywood's day off, but I managed to meet him and also Mrs. Caywood just before I left for Chiricahua. As luck would have it Frank Fish and Bill Stevenson were out on business but I can say that the enrollee guide made my visit most interesting and pleasant and also the Commanding Officer and Lieutenant who received me most cordially.

I'm just about at the end of the road, since I'm leaving tomorrow for Bandelier and the cold country. I can say, Boss, that I have acquired a great deal from this visit and I am sure that it will enable me to carry on at Bandelier in a more successful manner. I still can't say which is the best Monument in the system since they all have their merits and are all quite different, and for the personnel, I can say that I haven't met a finer group of men in my life from a standpoint of personality, adaptability, and congeniality.

This isn't the best report in the world but I feel that for this month it is sufficient since I'm all upset over the wedding or something.

*****00*****

BANDELIER ECW

By H. B. Chase, Project Superintendent.

All construction and interior carpenter work in connection with Quarters No. 3 was completed this month; cold weather has retarded the drying of plaster and masonry work thereby causing some delay of painting and decorating. It is expected the building will be ready for occupancy by January 15.

Four large crews have been working all month on landscaping and planting in and around the residence, headquarters and camp ground areas, two

BANDELIER ECW (CONT.)

crane trucks transporting large trees together with other trucks moving small trees and shrubs have accounted for a large number of plantings.

Work was started this month on the road surfacing project preparing the subgrade for the work of surfacing the entrance road under contract. This work principally involves the building to grade of the super elevations, straightening ditch lines and building out the shoulders together with a small amount of culvert headwall construction where the toe of the fill has stopped up the culvert inlet.

Another steel fire lookout ladder has been fabricated in the blacksmith shop during the past month and will be erected near corral point on the south mesa in the near future.

A small quantity of building rock has been quarried and shaped in the preparation for starting the construction of the wall unit comprising a part of the new hotel development.

Most of the carpenter crew has been occupied all month in further construction of the museum cases within the museum. In connection with this project five pieces of porch furniture have been completed for use at the residences.

Some work on the project of excavation of channels and ditches was done in connection with the new hotel development for the control of any possible flood waters coming into this area.

*****OO*****

BANDELIER FORESTRY

By James Fulton, Forestry Foreman

On November 28, my crew finished hauling logs which were cut on the Ramon Vigil Grant through the courtesy of the Soil Conservation Service. In all, 165 logs or whole trees were obtained. Another week and those logs along with 65 old logs from previous cuttings were piled crib-style for seasoning. We now have a stock pile of 230 logs which average 30 feet in length and 8 inches in top diameter.

Since the 7th of December, I have been working on Quarters No. 3: one week with a clean-up crew and then the commencement of painting there.

*****OO*****

CASA GRANDE

By J. Donald Erskine, Park Ranger

Travel to Casa Grande during December has continued to improve and 3,052 visitors were given conducted trips. This is an increase of 143 over last month, whereas December usually has fewer visitors than November. In December 1935 the count was only 2,135 which gives us an increase of

CASA GRANDE (CONT.)

917 visitors. The type of visitor also continues to improve most gratifyingly. Visitors came from 42 states, the District of Columbia, Alaska, Hawaii, four provinces of Canada, Mexico, England, Ireland, Norway, and Germany.

Newsworthy visitors of the month were Odd S. Halseth, Phoenix archeologist; Dr. E. P. Andrews, retired professor of archeology from Cornell University. Dr. Andrews was very much interested in "our" Cretan Labyrinth and since then has had sent to us a photo of the round maze (like on the wall of the Casa Grande) instead of the square one of our present photo. Bob Zuppke, football coach at the University of Illinois, was an interested visitor on December 17. On December 20 we had the privilege of showing the Casa Grande to Mr. and Mrs. V. W. Rowlett. Mr. Rowlett is an electrical engineer at Carlsbad. On December 19 Jerome Hendron arrived from Bandelier for a few days. He is to be best man at the wedding of Bill Sharpe and Lorraine Sewell on Xmas Day. Addison Pinkley is also on the Monument for a few days of the Xmas season.

Weather during December has been pleasant except for the extreme range of temperatures between day and night. The maximum temperature was 79 degrees on December 24 and the minimum temperature was 21 degrees on December 13. We had measureable rainfall of .08 inch on November 27 and 28. There were 16 clear days, six partly cloudy days, and eight cloudy days during the month.

We have had two overnight trailer campers during the month. The writer believes that more and more trailer parties are going to want to stay overnight here, as there are few places for them to stop conveniently between Phoenix and Tucson. While Casa Grande's picnic grounds were not built for overnight campers, two or three parties can easily be accommodated with our present facilities.

The writer has been quite amused by the thought of fighting a forest fire on the Monument, but such a thing happened during the month. On December 8 one of our overnight parties discovered a burning mesquite tree just west of the picnic ground. The falling of the tree upon being burnt through was the only reason it was discovered. The campers heard it fall and sought the reason. The fire was quickly extinguished with the aid of a fire extinguisher, as it was just a smoldering burn. The cause can definitely be placed on a campfire left burning several days before. No damage was done as the mesquite tree was already dead.

On December 8 Custodian Jack Winter went off duty in order to take some annual leave before his resignation became effective on December 15. The new custodian, Al Bicknell, arrived on December 20 from Craters of the Moon National Monument, Idaho, where he has been custodian for several years. Al comes to us with a long record in the Park Service, having spent 23 years in Yellowstone. He is a fine addition to Southwestern Monuments, but he is not entirely a newcomer to us, as Al helped out at

CASA GRANDE (CONT.)

Casa Grande last winter for several months. Also helping us out for a few days is Woody Spires who started work December 19. Woody also has worked three previous week ends in December.

One of the best things to report for months comes with the beginning of work on our new sewer system on December 19. By the time the next report is due it should be all completed, if nothing goes wrong, and it will be a great relief not to have to pump the sewer out twice a day.

The writer is doing this report while on sick leave recovering from a bad case of influenza which put him to bed on December 19.

In closing may I extend, along with the rest of the Casa Grande bunch, the heartiest Holiday Greetings to all who may read this.

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I wish to express to the entire Southwestern Monuments outfit our regret at leaving the fine friends and associations made in the past year and a quarter. We think that the Southwestern Monuments is a grand unit of the Park Service and are sorry that we did not have the chance to meet everyone as we surely do like all of those we have contacted.

I am moving to new work which is a bit more in my professional line. For the rest of this fiscal year, at least, I can be located in care of Fort Marion National Monument, St. Augustine, Florida, and if any of you get into that neck of the woods be sure to stick your head into the door.

Adios, Jack Winter.

*****oo*****

WHITE SANDS

By Tom Charles, Custodian

Was Cabeza de Vaca the first white man to see the Great White Sands? For thirty years I have "messed" with these sands and cared but little whether this first transcontinental traveler passed this way or not. But now it is an important question. The State of New Mexico is to put on a Cuarto Centennial celebration and plans to spend \$2,000,000 in advertising the points of early Spanish interest. There are plans for a pageant, portraying the coming of Coronado, following him from where he entered the State near Zuni, with his 100 Conquistadores, several hundred Indians, herds of horses, mules, sheep and goats. To my mind, if the State of New Mexico is to celebrate the coming of the Spanish then they should start with Cabeza de Vaca and his three companions who crossed this country at least five years before the coming of Coronado. Coronado's trip was the result of Cabeza de Vaca's inspiration and his guides were drawn from Cabeza de Vaca's party.

WHITE SANDS (CONT.)

For years it has seemed to mean but little to any one where Cabeza de Vaca crossed. Each historian seemed to have an equal right with others in leading him through the historian's own particular desert, along his own river and over his own mountain range. But now it is different; in the past few weeks at least four of these historians have taken this remarkable explorer who marked his path with buffalo heads, (Cabeza de Vaca - the face of the cow) by as many different routes.

W. E. Wheeler who writes New Mexico history for the government at this time, has followed the party up the Pecos river nearly to Roswell, then across to Carrizozo, down on the west side of the Lava Beds and the Great White Sands to El Paso. Dr. Castaneda, librarian of the University of Texas, expressed the opinion in El Paso last week that this group visited El Paso, in their wanderings and turned from there, south, into Mexico. Another prominent El Paso writer thinks that possibly they crossed the Rio Grande down in the Big Bend country and followed the Conchas river westward.

It is evident that the historians are having trouble following this first explorer across the plains of Texas. I wonder if any of them ever thought of the possibility of backtracking him with better results. According to Cabeza de Vaca's own story it was eight months from the time he entered the mountains until he came out of them, into the plains country, "nigh the coast", and in that eight months' travel there is one point which is definitely fixed. That is the place where they ceased to go west and started to go, "downward toward the sea". That point was "200 leagues north of Culiacan."

Is there any question in any ones mind where that point is that was described as 200 leagues north of Culiacan? If there is then they better take a string that will represent 200 leagues on any Mexico-Arizona map and with that string as the radius of a circle, draw an arc across Arizona with Culiacan as the axis. This arc will show that they turned south some place between Phoenix and Springerville. When Esteban brought Coronado back a few years later he returned to Zuni, just north of Springerville.

The next question is, how did the party arrive at the point where they turned down toward the sea? According to Cabeza de Vaca's own story they had traveled 20 days westward from a river which they had followed "upward" in a 15 day march, "without stopping". Then, where were they at the beginning of the 15 day journey? It doesn't make much difference whether they reached the Rio Grande river at mile post 40 or 50 on the Camino Real, north from El Paso del Norte, but some place, not too far from the present site of Las Cruces, that group came upon the river which they followed 15 days upward. And immediately before that they had been in a desert which even the hardiest Indians had feared to cross. Can you think of a desert which will more accurately qualify than the red sand hills about 30 miles south of the Great White Sands?

To reach this desert they had "turned toward the mountains" at a point which was 50 leagues, (150 miles) east of the river which they had followed upward 15 days and for the first 15 days of that 150 miles they "waited" where the Indians had Pinon nuts and the men had gone hunting in the "cow country to the north". Prior to this 150 mile leg of the journey they had traveled, "along the skirt of the mountains, entering the country directly north." I do not care to follow Cabeza de Vaca further, he entered the state of New Mexico some place east of Carlsbad. When he entered the mountains where the pinon nuts abounded it had to be somewhere north of the Guadalupe Mountains for the pinon does not grow south of that range, and the cow country was never south of the Rio Grande or west of the Pecos. According to my geography there are several points which are definitely fixed. So let us turn around and follow Cabeza de Vaca as he went after entering New Mexico.

The journey which they made northward for 80 leagues, "skirting the mountains", was from some place down east of Fort Stockton. Turning north when they came in sight of the mountains they continued east of the Pecos until they came up to a point which is about two days east of Artesia, New Mexico, for when they turned west toward the mountains, they came upon a "beautiful river" on the second day. That was evidently the Pecos; from there on for 15 days, traveling slowly, they were in the pinon country which was probably near the present post office of Pinon, New Mexico. After this came the frightful desert where 300 of the Indians were "ill", the prickley pear had "ended", the guides urged the Christians, "to go after the cattle, upward, toward the north"; here they left their straw trunks and the "things which were old", and finally with "20 of those in health" they crossed the lower end of what is now the Tularosa Valley, through what is now St. Augustine pass in the Organ Mountains and came to the Rio Grande. From here they went 15 days "along a river, upward", probably to the present site of Socorro, then 20 days westward and then, "downward toward the sea", 200 leagues to Culiacan.

The facts are evident. The prize for establishing this route is worth while for if this coming celebration is staged in the proportion which is now planned, New Mexico will have 10,000,000 out-of-state visitors in the year 1940. It seems to me that the Park Service, which is in possession of all the leading attractions in the state should be most interested in offering help to stage this show correctly and successfully. Is there not a historian in the Park Service who can work up the material and be present when the programs are to be planned? It seems to me worth while.

The plot thickens in this travel count of mine. Last week I had the watchman at the headquarters area count cars for me when he was loafing -- just kind of checking up on myself. On four days when it was cold and damp we didn't have a single registration but the watchman reports that during that time he had counted 63 cars which stopped at the Sands. How are we going to work these "established" percentages on that kind of registration? I can't. But I have another place where I can work them.

WALNUT CANYON (CONT.)

D-1 Widen the trail by building a small rock wall. This was done because the trail passed under a leaning Douglas Fir, which made it a bad place to pass.

E-1 Built a new trail around a large rock over which the trail went. New trail continued on for a distance of fifty feet on an easy grade. This section of new trail is about six feet lower than the old trail and eliminates a steep place that was on the old trail. This part of the trail was bad when there was snow on the ground.

G: Widen the trail which at this point went between two large rocks. The old trail was too narrow and had a right angle turn in it. With the widening of the trail at this point the right angle turn was eliminated.

H: Widen the trail which at this point was partly stairs. Also cut in a new twenty foot trail part of which was built by rolling large rocks in a draw and building up a wall.

Spent two days timber crusing for posts for signs; have cut a few of the posts, but good posts of the size called for on the blueprint are few and far between.

Animals observed at the Monument:

Mule Tail Deer	Coyote spc?
Albert Squirrel	Cottontail spc?
Texas Jack Rabbit	Say Ground Squirrel
Gray-necked Chipmunk	Arizona Porcupine
San Francisco Mountain Wood Rat	

Birds observed in the Monument during December:

Cooper Hawk	Spurred Towhee
Western Horned Owl	Mountain Chickadee
Red-backed Junco	Gray-headed Junco
Shufeldt Junco	Rocky Mountain Nuthatch
Pygmy Nuthatch	Long-crested Jay
Woodhouse Jay	Townsend Solitaire
Chestnut-backed Bluebird	Western Robin
Red-shafted Flicker	Lead-colored Bush-tit
Clark Nutcracker	Canyon Wren
Pine Siskin	Pink-sided Junco
American Ravin	White-breasted Woodpecker
Western Red-tail	Mountain Bluebird
Bandire Crossbill	Mexican Crossbill

149 birds were banded this month. This does not include repeats and returns.

TONTO

By J. Doug Harritt, In Charge

Total visitor travel to Tonto National Monument for the month of December was 252 persons. 166 visited the ruins and museum; 39 visited the ruins only; 31 visited the museum only. 16 persons saw the ruins from the parking area, making neither a ruin nor a museum trip. Total ruins trips numbered 62; total museum trips numbered 62. Total time guiding ruins trips was 3,098 minutes; total time guiding museum trips, 964 minutes; average time ruins trips, 49.96 minutes; average time museum trips, 15.54 minutes; average time total per party, 65.50 minutes.

Weather during the month was generally fair, although some rain fell early in the month and again as the report closes. Maximum temperature was 67 degrees; minimum temperature was 32. Total rainfall was 1.39 inches. Range conditions seem good with much new grass in evidence. The country generally is becoming greener, and all indications point to a fine display of flowers in the spring.

Work on the trail and road was limited to smoothing out of rocky stretches, removal of snags, and attempted drainage. Condition of the trail is fairly good. Numerous complaints were received on the condition of the approach road which is very rocky and rough.

Only official visitor of the month was Jerome Hendron of Bean Canyon section, who made an overnight stop on his way down from the northern country. We had a fine gab session, and I surely enjoyed meeting him and getting the news of more northern climes.

With this, the last report for the year 1936, going in, and the new year rolling around, I want to wish the outfit the best of luck and a Happy and Prosperous New Year. Also to express my thanks, and express the pleasure I have had working with the gang the past two seasons.

*****00*****

CHIRICAHUA

By Frank L. Fish, Custodian

The end of last month left us with snow covering the monument. Cold nights prevailed during the larger part of the month. At high elevations snow remained for a long period on the trails. The cold snap finally gave away and for the past three nights we have had no frost. In fact last night a party of campers slept on the ground and remarked how warm it was. Don Erskine is right, Arizona's climate is quite changeable.

Some stretches of the approach roads are in very poor shape; so far visitors have not complained. It must be the scenery that makes them forget. The boys up in a few northern monuments have an erroneous idea about the best monument. When they have traveled more broadly I believe they will realize such a designation belongs further south in Arizona. For details the extreme S. E. Corner. It is probably their realization of

CHIRICAHUA (CONT.)

the fact that causes such a stir in the monthly reports from that way. I should never have entered any protest except their continual blowing is ruining our climate down here. Those north winds are plenty frigid.

Visitors for the month numbered 273 arriving in 59 cars. 22 states were represented. An even 200 came from Arizona. 61 of these were CCC boys in trucks from F-64-A, Nogales, Arizona. Most of these boys could be counted as out of state visitors. Counting the enrollees as a special party would leave us 212 regular tourists as against 120 for last year.

The weather and snow covered trails kept the hikers off the trails. Out of the entire group only seven or eight were actually dressed for hiking. Four others came dressed for riding and saw the monument in that way.

I concur that no roads should be made through the scenic wonders of the monument. My idea in last month's report was to bring the existing conditions out and suggest as a remedy a take off from the Massai Point road at the Barbecue Pit and take a course on the north exposure of the ridge there and arrive at an area approximately a mile from the "Heart O' Rocks". I also had in mind to keep the road to a truck trail standard and from looking over the sight it seems practical and I believe the road could be hidden very nicely. It must be remembered such a road would be entirely outside of the present monument boundaries.

Park Service visitors during the month were: Chuck Richey, Clinton Rose, Architect Eastman from Colossal Cave, George N. Keller, inspecting ECW equipment, and J. W. Hendron, acting custodian of Bandelier National Monument. I was sorry Hendron arrived while I was in town but we met on the road later and had a short visit. Incidentally, J. W. was slightly misinformed. Bronson Harris, CCC guide, meant 20 million more or less instead of 20 billion in regards to the age of Rhyolite. Bronson states he "kinda" detected a grin appear on Hendron's face.

A shipment of signs was received during the month from Bandelier. Clinton Rose desires to use these for temporary purposes until such time as a project can be set up for more permanent ones.

The ranger residence and equipment shed are about completed and the enrollees along with the men in charge can be proud of doing an excellent piece of work.

I expect to move into the new residence the 29th or 30th of this month but in the meantime it will be necessary for me to drive to Hobbs, New Mexico, for Corabeth and the "Minnows". Considering Bronson Harris and Homer Bennett are quite capable in handling the visitors and this is the slack season of the year, I shall leave here the 24th and arrive back the 29th expecting to see the famous Caverns on the way for the first time. MERRY CHRISTMAS AND A HAPPY NEW YEAR.

CHIRICAHUA ECW

By Wm. Stevenson, Project Sup't.

The Massai Point-Balanced Rock Trail advanced 1,500 feet, making a total of 2,850 feet to date.

The Sara Deming-Balanced Rock connection progressed 700 feet. Work will be discontinued on trail construction until after the holidays.

One half mile of Rhyolite Trail was maintained this month, making a total of one and a half miles. Actually 5,000 feet were completed in November. The 500 feet shown was an error in copying. One mile of Sara Deming was maintained.

The headquarters ranger station is 99% complete.

The equipment shed is 95% complete.

Some finishing work has been done this month on the headquarters utility area and service road. Landscape Architect Rose plans to spend some time with us after January 1 and assist in the completion of this project.

Backsloping on the Massai Point road has continued throughout the month. The recent rains have so loosened the material in the rock cut sections that 800 yards of rock were handled without the use of powder.

Work has continued on Highway Maintenance and the Rock Quarry.

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MONTEZUMA CASTLE

By Russell Farmer, Acting Custodian

Travel has been slow this month except for flurries on weed-ends and holidays. Although the weather has been fine here, the entrance roads from Prescott and Flagstaff have been covered with snow a few times. This, along with road repairs and detours, has probably been sufficient to dissuade many prospective visitors from coming in. Travel seems to be increasing with the approach of the holidays and the neighboring dude ranches report that their facilities are fully reserved over Christmas.

The register shows that 512 visitors from 22 states and one party from Canada visited the monument this month. Of this number, 344 climbed the ladders to the castle and 395 attended the museum. We have a great number of local people who sign the register but do not avail themselves of guide service since they only desire a place to picnic. All these people are contacted but are not shown on the records.

On November 29, a group of seven students and two instructors from the Arizona Desert School spent a few hours on the Monument. On the same day, 28 men from the Sedona CCC Camp and 34 from the Beaver Creek Camp

MONTEZUMA CASTLE (CONT.)

visited the Castle and Museum. We have tried to impress the officers and educational advisors with the fact that they would receive much better service if they could come on Saturday rather than on Sunday when there is a peak load of other visitors.

Mr. Jackson's resignation became effective on December 1, and the community as a whole regretted to see him sever his connections with the Service with which he has spent so many years. Mr. Jackson says that half the people were mistaking him for Montezuma and that he thought he had better move on before he became a landmark. He very kindly continued to assist me with the contact work until I was able to secure the services of Harry Lockart as a per diem guide. Mr. Jackson is still here and I call upon him freely for advice and suggestions about the work.

The water system has had two of its customary breakdowns this month by way of initiating the new regime. Since neither of them occurred on Saturday night, the affairs were not serious. The eccentricities and intricacies of this water system sure prevent a man from brooding too much on his other troubles.

Bearing in mind the fact that accomplishment in the field is not measured by the length of the report, I close by wishing the personnel and their families, A VERY MERRY CHRISTMAS AND A PROSPEROUS NEW YEAR.

*****00*****

TUMACACORI

By Louis R. Caywood, Custodian

Visitor registration continues to climb to new high levels. For the past month there were 1,233 visitors contacted and shown through the mission. An additional 142 stopped and looked from the parking area or used the facilities offered by this monument, making a total of 1,375 which number eclipses any previous December record.

Weather conditions have been very favorable for this time of the year. A few days in the last part of November were rainy, but December to the time of writing has been sunny and warm. Eastern visitors spending the winter here certainly enjoy these springlike days and their usual remark is, "When I left _____ the snow was 12 inches deep and getting deeper every day."

A number of newsworthy visitors stopped at the monument during the month. Dr. and Mrs. H. C. Bumpus and Miss Florence Tarr Warten were here on December 18. Dr. Bumpus was extremely interested in the proposed museum developments and even asked if I belonged to the left hand or right hand school of museums. He said this controversy reminded him of another one about twenty years ago when the question was whether or not a prehistoric Indian pot should be washed before being put on display.

TUMACACORI (CONT.)

Dr. and Mrs. Ralph L. Beals and their two boys paid us a visit on their return from Mexico. Dr. Beals is now connected with the University of California at Los Angeles, Westwood, California. He was visiting the Yaqui country in Mexico.

Charlie Steen and Paul Beaubien were Park Service visitors on the 10th. Charlie looked over the Papago ceremonial material at this monument. Paul Beaubien came again on December 12 showing his sister, Nell B. Nichols of Topeka, Kansas, the highlights of Southern Arizona.

J. W. Hendron, Acting Custodian of Bandelier National Monument, visited us on December 21 on his way to Chiricahua National Monument.

Charlie Steen came again on December 22 bringing Dr. MacDougall, Wildlife Technician from the Oklahoma Regional Office.

Treasure hunters are as numerous as ever. The manuscript telling how to find the treasure is usually the same, but the conditions under which it was gotten are very different and always make the manuscript very valuable and old. The latest one is that a copy of the original was obtained by an old Spaniard who had made the copy in Mexico City many years ago. He then had visited the area around Tumacacori Mission and had seen the rock bearing the inscription CC D which was the identification for the buried treasure. T D Now, it seems, this rock is gone. The folks who have a copy of the original manuscript complained that they could not make out the words where the old paper had been folded. And the Spanish used in the manuscript was very different from modern Spanish. It seems as though even treasure hunters have their troubles.

The reproduction of the Spanish arrastra has been completed and is attracting considerable attention. I now feel that visitors go away with a better knowledge of what an arrastra looked like and how it worked. This arrastra is small, being only 5' 2" in diameter. The height is 7' and the distance between the two upright poles is 14' 6". It will only accommodate one arrastra stone and can be operated by one burro. When I find the old Spanish gold mine, Virgin de Guadalupe, I will try out the arrastra to see if it will really work.

Mr. James B. Felton and wife arrived at Tumacacori December 9. Mr. Felton, Jim to us, reported for duty on December 10 and has made rapid strides in mastering the knowledge to answer the questions regularly asked by visitors. Jim has spent two and one half years at the Petrified Forest before coming here as permanent ranger. I am sure everyone in Southwestern Monuments joins me in welcoming Jim and Margaret into our Southwestern family and wishing them the best of luck.

*****00*****

WUPATKI

By J. W. Brewer, Ranger in Charge

500 Use of Monument Facilities by the Public

52 guests registered at Wupatki; 66 at the Citadel; 10 names are duplicated, leaving a total of 108 visitors to this monument in December, 1936; 1935, 63; 1934, 42.

530 Newsworthy Visitors

Dr. H. S. Colton and Mr. L. L. Hargrave to see the burials in Room 7 on the 30th.

Geologist Vandiver and Ranger Wetherill, to discuss geological feature signs and installation, on the 12th. (These fellows caught me in bed with a touch of flu, and the next time I saw Van he was in bed with a span of broken ribs)

Mr. James O. Grandstaff of the Range Breeding Laboratory, to see the rugs Sallie's weavers are making with the experimental wool samples, on the 14th.

On the 15th, Mr. and Mrs. R. W. Hussey of the National Forest Service.

Acting Custodian Hendron on the 16th just in time to join the Navajo Christmas party.

021 Weather

Generally overcast days and cooler than expected nights have prevailed. (I'm trying to write this in Coolidge and find I do not have a record for the balance (24th to 30th) of November.

Days cloudy -----	16
Days Sunny -----	5
Light snow on the 11th	
Maximum temperature -----	56° on the 7th.
Minimum temperature -----	13° on the 17th
Precipitation -----	Trace
Anemometer -----	3,504 total miles
Maximum 24 hour reading -----	350.2 on the 18th
Minimum 24 hour reading -----	172.6 on the 12th

Since the anemometer does not record daily readings and requires constant close attention I thought it best to remove the cups and cover the instrument with canvas.

WUPATKI (CONT.)

Bird-Banding

Attached are the 1936 form Bi 860 bird banding records complete to date.

Banding records not previously submitted to your office are as follows:

October 27 - Two Gambel Sparrows
October 27 - Two Slate-colored Juncoes (This is the first record of the occurrence of Slate-colored Juncoes on Wupatki National Monument)
November 13 -Four House Finches
November 15 -One House Finch

Monument bird files are up to date.

General

On the 21st the Custodian abdicated and turned the keys over to Clyde Peslakai.

Correspondence is up to date; everything is under lock and work is laid out for Clyde so I'm turning the wheel over to Sallie who will take you on a trip thru the Kishmus party (See Supplement).

*****OO*****

SUNSET CRATER

By James W. Brewer, in Charge

141 visitors registered at Sunset Crater National Monument in December, 1936; 1935, 55; 1934, 53.

Photographs of the geology signs requested by the Washington office have been taken and prints will be supplied very soon.

This month I have had the CCC boys do a lot of planting of trees and shrubbery. On the 10th and 11th we got from Moccasin some 500 Wild Rose roots, and set out by the east entrance, at the head of the meadow, and some at the southeast corner of the meadow. On the 14th and 15th we set out 200 or more of shadscale in front of the west cabin and will get some other kind of brush when the weather gets colder.

December 21 and 23 we set out about 130 trees; some, to replace those that died from last year's planting; and then, some to fill up ground around the parking area and camp ground.

I believe that with all the trees and shrubbery now planted we will take care of all the water that we have until we can get it piped

PIPE SPRING (CONT.)

closer to the trees (ought to have about 300 or 400 feet of 2" pipe for this).

I have finally made a break to arrange the museum articles into groups and have taken the east room, second floor of the lower house, for the ancient and modern Indian material. The middle room I will use as a geological and rock room, and the west room will be left for the telegraph office when we get the material to go in it.

A part of the east room on the ground floor of the lower house is being used for an office, and I also have a few pioneer relics which will be assigned to other parts of the building when I get them worked out.

Nature Notes

On November 28, with two scouts and the old Dodge truck, I went to the Mammoth Fish Hatchery and brought back 3,000 or 4,000 Rainbow and Eastern Brook Trout and put in the two ponds in front of the Fort. The fish are doing fine as revealed by the fact that they will not take the bread and feed that is thrown into the pond. Apparently there is sufficient natural food in the food to satisfy their appetite.

I haven't done a lot of bird banding this month, partly because I have been doing something else and again the birds do not care for my feed. Nevertheless, I have banded the following:

11 Gambel Sparrows
4 Song Sparrows.

I have had many repeats. I killed one cat that has been around the fort.

The other day I was up on the hill looking the monument over and I saw hundreds of plants growing, some of them having four to six leaves. The grass on the southern slopes is ten to 12 inches high.

With all the moisture that has fallen this month we ought to have a lot of flowers next summer. On December 4 it rained and snowed, amounting to three-quarters of an inch; then on the 15th, 16th, and 17th it rained and snowed most of the time, giving us more than $1\frac{3}{4}$ inches.

The ECW projects that the boys have been working on this month are the planting of trees and the ditch elimination. I am anxious to get some of the plans for the tables and drinking fountains and pile lines if they have been approved.

*****○○*****

AZTEC RUIN

By T. C. Miller, Custodian

General

Approach roads to the Monument, except a short stretch of road between Aztec Ruin and Farmington, which is under construction, have remained in excellent condition all the month. Wolf Creek, Red Mountain, Monarch, Rabbit Ears, Tennessee and Berthoud Passes are all open and well maintained. Consequently the Aztec Ruin has received more visitors from the north and from the south during the month of December than it had last year.

Travel

576 people were guided through the ruins. They entered the Monument in 165 cars, coming from 19 states and one foreign country, China. Visitors average about $3\frac{1}{2}$ persons per car. The travel for the same month last year was 391, showing an increase of 185.

Weather

Weather has been excellent the entire month. Weather statistics show maximum temperature 60 on November 27; minimum temperature, 5 on December 12; precipitation, .02 melted snow was recorded during the month.

New Improvements

Natural gas was installed in the custodian's residence November 21 and 22 for heating purposes. Then on December 12 we installed gas in the administration building for heating the office and museum, by placing a gas burner in the coal burning furnace. This arrangement has proven very satisfactory unless the cost is prohibitive.

On December 8 we began work with a small crew to plant the area on west side of administration building where gravel was piled for use on the parking area. This work was done under Roads and Trails allotment. The area was filled with sage, chamise, chico and rabbit brush, using the larger plants near the walls and sloping toward the building. There were also a few yucca and juniper planted.

On the east side of the area we removed the large cottonwood tree that was dead and filled this in with some of the above mentioned plants.

All this planting in front of the building is now complete and approximately 80% complete on the sides. In addition to the shrubs native grasses will be used around the building.

This work will probably be completed early in January.

AZTEC (CONT.)

Guided Trips

We have been doing quite a bit of experimenting in taking our visitors through the ruins. On December 15 we started taking our visitors from the museum building up the paved walk on the west side of the ruin, entering the ruin at the northwest corner, showing the underground rooms which are all of prehistoric work, including the artifacts displayed, then ascending the steps to the highest point in the ruins overlooking the entire pueblo, where the visitor gets the best view of the ruins; then continuing our trip on down to the court and finishing with the Great Kiva, which, although restored, is the masterpiece of Southwestern archeology. The purpose of this change was to impress the visitor first that it was a prehistoric ruin and not a restored pueblo. It is believed that this trip is going to work out very nicely. However, we are still experimenting and studying the guide service in this Monument and should we find a better route that is the way our visitors will be handled, but so far excellent results have been obtained.

Personnel

I entered on duty at Aztec Ruin November 23 and Custodian Faris departed for Canyon de Chelly National Monument on November 30. Oscar Tatman, guide, separated from the Service December 15. We surely hated to see Oscar leave as we have found him to be a mighty good man and a good guide. Mrs. Viola Turner entered on duty as guide December 18 as we have been getting more visitors during the Christmas Holidays than one guide can handle. Mrs. Turner needs no introduction to the Southwestern Monuments as she has been employed in various capacities at this Monument for several years. To date her services as guide have been very satisfactory.

It was necessary to work a small crew of men planting shrubs around the administration building for about ten days, as mentioned elsewhere in this report.

Special Visitors

Mr. Lloyd Case and Mrs. A. W. Ayres, from Durango Chamber of Commerce, were interested visitors on December 15. Custodian Faris, from Canyon de Chelly National Monument, arrived and departed on December 23. It was nice to see Johnwill back on his old stomping ground if only for a few minutes and while we are on this subject, Boss, I would like to set all the readers of the Southwestern Monthly Reports right and save the Government money of employing a psychologist to study the changes from Chaco to Aztec, Aztec to de Chelly, and de Chelly to El Morro, referred to under the heading of Comments in the November report. Within the Monument boundaries of Chaco Canyon National Monument 18 major ruins are found. These ruins are without equal in the United States. No other

AZTEC (CONT.)

archeological area in the entire Southwest exhibits such a high development. In addition to the 18 major ruins some 200 house mounds have been mapped and surveyed, and these are what I was referring to in my November Chaco Canyon report when I said "Aztec is a better ruin than the house mounds in Chaco Canyon." However, Aztec is a good Monument with many advantages and I certainly appreciate being stationed here. Mr. Faris, former Custodian here, has certainly set a high standard of service and it is going to keep a man busy maintaining such a record. We hope he makes a good cliff-dweller and certainly wish him well with his new assignment.

*****OO*****

CHACO CANYON

By T. C. Miller, In Charge

General

Weather in Chaco this month has been very good. Not enough snow to make the roads bad at all; in fact, the road from Thoreau to Chaco is in better shape than ever before.

Weather Statistics

Maximum temperature, 54 on the 16th; minimum temperature, 5 on December 6. .05 inch precipitation, rain and melted snow, was recorded during the month.

Travel

220 people entered the Monument in 70 cars from ten states.

Activities of Other Agencies in the Monument

The Soil Conservation Service has planted 37,830 trees in and along the Chaco Wash. It has also replanted about 3,000 of the older ones that were planted by that Service more than a year ago. 31,580 willows, 2,000 wild plums, 3,000 broad leaf cottonwood, 1,250 narrow leaf cottonwood were planted.

Rodent control was continued around the earth dykes on the Canyon near the ruins of Bonito and Kin-Klet-soi, five gallons of carbon bisulphide gas being used. Seventy-five Kangaroo Rats and Antelope ground squirrels were trapped following the same ground that the carbon bisulphide was used on. The work was started with ten men and five more were added on the 15th. No dirt was moved by the Soil Conservation during the month.

School of American Research

The WPA Project is still under way under the supervision of
SOUTHWESTERN MONUMENTS 392 MONTHLY REPORT FOR DECEMBER, 1936

CHACO CANYON (CONT.)

Gordon Vivian. There have been about 200 cubic yards of dirt moved from the small ruin of Lay-Yit-Kin under the supervision of Miss Dutton and Miss James. This work was done in the early part of the month and there is no excavation going on at present.

Four hogans have been completed and two more started. Mr. Vivian moved his family out and they are occupying one of the new hogans and he says they work swell.

Mr. Vivian has only a small crew of 11 men now but hopes to get more in January.

Threatening Rock

The three steel bars that serve as gauges in the canyon wall and in the Threatening Rock were checked several times during the month. First check, November 14, by Engineer Hamilton and at that time it had shifted one-fourth inch. It is now obvious that this rock is sure to fall and destroy the finest prehistoric wall in the Southwest. Boss, don't you think it would be wise to have the Engineering Department make a study of this problem soon? It is believed that we should ask for the money to take this rock down.

Monument Inspections

Chaco Canyon was inspected six times during the month by the custodian. Mr. Lavender seems to have the Monument running nicely at this time.

Personnel

Jack Lavender was employed on November 21 as guide and will remain on duty until December 31 and at that time Mr. McKinney will assume duties as custodian at Chaco Canyon.

Yucca House National Monument

This Monument was inspected on the morning of December 23. No evidence of vandalism was noted. The fence around the Monument is in fairly good condition with the exception of one gate that was repaired on that date. Mr. Ismay was away from the Monument so was unable to contact any of the local people as to travel and so forth.

*****OO*****

CAPULIN MOUNTAIN

By Homer J. Farr, Custodian

Probably the warmest and finest December this country has seen for a century was experienced. At least all old-timers say the finest they

CAPULIN MOUNTAIN (CONT.)

have ever seen in more than half a century. There was no precipitation nor wind, just fine warm days and frosty nights. We are all praying for snow but our prayers go unanswered. But even at that I believe we are blessed with better weather than some they have down Alabama way, according to a conversation the custodian here had with a lady from Alabama recently upon being shown around the Volcano, she stated "I bettcha hit shore was hot around here when that thar critter was sploden"; and she says "Mister, bout how hot does hit get here in the summer time?" And the Custodian told her that maximum mean temperature ran around 98, whereupon the lady said "Mister, I don't know what you're driven at but I want to tell you that hit gits meaner than that in Alabama."

Many visitors have been to our Volcano this month; I estimate 800. This is due to the fact that all roads in the vicinity of this monument have been in excellent condition all thru the month due to lack of snow and rain.

The roads and trails on and in the Monument are in fair condition and have all been used very much this month. Even the camp grounds have been used this month as never before. Much highway building is now taking place in and near the town of Capulin, 20 miles west from Capulin now being under contract and construction. This will be graveled and oiled and the ten miles east of Capulin I understand is to be let under contract this winter. This, when completed, will make all pavement from the Gulf of Mexico to Canada thru Capulin and within three miles of our Capulin Mountain National Monument, and this three-mile strip is well graded, graveled and kept in excellent condition. This coming summer no doubt we will have plenty of travel to our monument. We are expecting fifty thousand this year.

A rather interesting find was made a few days ago by some local boys here, not on but near this Monument. In a cave two large silver urns, unused but possibly very old. Observation pointed out that they had not been used but have been hidden in this cave for many many years. Effort is being made by the custodian to date them and secure them for our proposed museum. They have been rather costly in their heyday and no doubt were prized very highly by their owner. They are about 15 inches high and seven inches diameter at the base. Each has the capacity of possibly three quarts.

*****OO*****

BRANCH OF EDUCATION

HEADQUARTERS STUFF

Robert H. Rose's Activities

The period of December 24 to December 31 was taken off duty on sick leave because of tonsillotomy. The remainder of the month was spent in the headquarters offices. From a personal standpoint I do not recommend a day before Christmas tonsil operation as the best possible preparation for the enjoyment of a sumptuous Christmas feast.

Cataloguing 1,200 spaces and 674 lantern slides, a project brought to 40% complete in November was finished in December. Now all slides are in the cabinet catalogued and in designated spaces while a card file for each slide has been prepared. With this cabinet under lock and key it is believed that the issuing of slides to field men and to travelling headquarters officers can be controlled satisfactorily. It will be possible to identify and perhaps replace broken and lost slides. About eight days were spent in completing this project.

This month marks the appearance of a second Special Report (No. 12) on the Kino Missions Research work done in Bancroft Library, University of California, by the writer last summer. The official reports by Bishop de los Reyes made following the Jesuit Expulsion of 1767 comprise the principal material of this report. The shaping up and improvement in translations of this material required approximately five days.

Incidental to the resignation of W. J. Winter as Custodian at Casa Grande and Al Bicknell, the new Custodian getting established, part time assistance during a total of seven or more days was given to contacts work.

Outside Lecture Contacts:

The following outside lecture contacts were made by the writer during the month of December:

1. Gila County Archeological Society, Globe, December 1, at 8:00 PM; Illustrated Lecture on the Kino Chain of Missions; attendance, 110.
2. Florence Union High School, December 3, at 10:20 AM; illustrated lecture on Kino Missions and activities of Padre Kino; attendance, students and faculty, 175.

EDUCATIONAL DIVISION (CONT.)

3. Community Church group, Coolidge, December 6, 7:00 PM; illustrated lecture on Senora and Arizona Missions; Young Peoples' group; attendance, 25.
4. Arizona State College, Tempe, December 9 at 8:00 AM; illustrated lecture on Kino Missions; attendance, 65.
5. Florence (Arizona) Rotary Club; December 9 at 12:10 PM; illustrated lecture on Kino Missions; attendance, 25.
6. 7th and 8th grade, Coolidge Public Schools; December 14 at 9:00 AM; two groups; attendance, 110. (Illustrated Lecture on Life of Padre Kino)
7. Masonic Lodge open meeting at Casa Grande, Arizona; December 17 at 8:00 PM; illustrated lecture on Kino Missions; attendance, 60.

Totals: 8 groups; attendance: 570.

This is the last report which I'll be making as a member of the Southwestern Monuments organization. Starting early in the new year I begin duties as Naturalist for the newly established Boulder Dam Recreational Area with office at Boulder City, Nevada. In closing this report I wish to express appreciation for the great circle of friends among Southwestern Monuments and to express the pleasure I have had in working with you. The new Boulder Dam area is but a stone's throw from some of the monuments and I feel sure we shall have the pleasure of having Southwestern Monuments folk through our new field frequently. So, after inserting my card in the Monthly Report Mailing List that I might keep in touch ever afterward with life among the monuments folk, I close with "Adios" to all.

Report of Junior Naturalist Steen

At Headquarters during the entire month with the exception of the period December 16 to 23 which I spent at Saguaro National Monument with Dr. W. B. MacDougal of the Wildlife Division. Made two trips to Tumacacori National Monument; one, early in the month to take some notes on Papago ceremonial material which was collected by George Boundey; the second, in company with Dr. MacDougal.

Junior Naturalist Dale King is on administrative leave; his position remains unfilled.

Gifts and Accessions

A lithograph of a Pueblo Indian was received from the Berkeley laboratories. This picture is being framed and will be sent to Walnut

EDUCATIONAL DIVISION (CONT.)

Canyon National Monument.

34 books and pamphlets have been added to the library. These have been catalogued and will be listed in the January, 1937, report.

Phil Hough, Washington's Birthplace National Monument, donated a fine map of Mexico and Guatemala, dated 1834. The map shows the boundaries of Mexico extending as far north as Great Salt Lake, (listed as Lake Timpanagos) which is shown to empty directly into the Pacific Ocean by means of the Timpanagos River. A number of the Indian tribes of the Southwest are located on the map, but with no great accuracy. The spelling and location of villages and natural features are of interest.

Bird Banding

At the headquarters station only 17 house finches were banded during December. Four returns were recorded during the same period, two Gambel Sparrows, one Crissal Thrasher and one House Finch.

Milton Wetherill reports 149 birds banded during the month but did not mail in a list.

The report from Leonard Heaton at Pipe Spring lists the following birds with new bands; 11 Gambel Sparrows and 4 Song Sparrows.

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Educational Contact Figures (See table on next page)

In December the Southwestern Monuments had a total travel of 13,021 visitors which compares well with 8,525 for December, 1935. It does not mean that our visitor curve has risen as much as one would think at first glance. White Sands and Saguaro account for a large part of the increase and I think at White Sands we were too low in our estimates last year while we had no one in charge at Saguaro last year and so had no report.

We do, however, get a real increase at Casa Grande where the same checking methods were in use Both years.

Of the 13,021 visitors, we contacted roughly 6,061 individuals or a little less than half. A little less than half of these 6,000 individuals were contacted a second time, making our total educational contacts at the monuments for the month 8,963. Lack of personnel accounts for the comparatively small number of contacts. A man stationed at White Sands could have given a great deal of information to the visitors and two men there would have been three times as valuable as one man.

We gave 1,019 guided field trips during the month which compares

SOUTHWESTERN NATION I. MONUMENTS

MONUMENT	No. Employees	GUIDED TRIPS				MUSEUM TRIPS				Grat'f'c.		Outside Lectures	Total Edu'cl Contact	Total Travel	Total Last Year	
		Fer. Ter.	No.	Att'd	Time	AV. Att.	AV. Tr	No.	Att.	Time	AV. Att.					AV. Time
Arches																
Aztec	1		104	83	3637	4.6	35.4	107	79	1835	4.6	17.1		972	576	391
Bandelier			27	81	3200	3.0	81.5							81	227	130
de Chelly		No Report														24
Capulin	P														800	300
Casa Grande	2		5.1	305	10342	9.8	20.6	135	103	3908	9.5	21.3		4805	3062	2135
Chaco Canyon	1			3	1215	3.0	15	24	68	440	3.2	21.0		37	220	330
Chiricahua	1	2	7	13	95	9	24							13	273	120
El Morro	1			62	1395	3.4	20							62	75	
Gran Quivira	1		50	176	2960	5.5	50.2								176	300
Gliff Cliff																
Hovenweep																
Mantezuma	2	0	91	344	2424	3.7	37.2	91	79	1709	4.3	15.7		109	512	568
Natural Bridge																
Navajo																
Pipe Spring	1			15	12	2.5	20							15	90	314
Reinlaw																
Saguaro	1		38	253	3.10	3.4	40							298	1000	
Sunset																
Tonto	1		62	205	3089	3.3	99	62	197	664	3.1	15.5		402	252	302
Tumacacori	2		225	1233	7614	5.0	73.7							1233	1373	1311
Valint Canyon	1														280	283
White Sands	P														3864	1840
Wupatki		1	10	30	600	3.0	60							30	108	63
Yucca House																
Headquarters																
Total this mo.			1019	6011	11100	5.3	40.3	464	3902	8856	6.3	19.0		7	570	8,963
Total this mo.			1299	7926	45773	6.1	35.2	691	3127	10455	4.5	15.1	201	1411	4	460
Same mo. lt yr.			924	4769	46277	5.1	49.9	284	1508	5680	5.3	20.0	30	1793	1	20

EDUCATIONAL DIVISION (CONT.)

with 1,299 the previous month and with 926 for the same month last year. The decrease in number of trips from November to December is to be expected; the increase of nearly 10% in number of trips over last year is a little surprising at first glance but is largely accounted for by the increase in visitors at Casa Grande and Aztec. The total time used in these field trips this year for December is 41,100 minutes as against 40,277 minutes in the same month last year. With an increase in number of field trips we get a drop in total time expended. The average field trip ran 49.9 minutes last year, 35.2 minutes last month, and 40.3 minutes this month. The average party was just under six persons.

We gave 464 museum talks to 2,902 persons as against 284 talks last year to 1,508 persons. The average museum talk was 19 minutes this month as against 20 minutes for the same month last year and 15.1 minutes last month.

The tabular matter would seem to show that the boys were on their toes last month and delivered good service but that we lost good opportunities at White Sands and probably at Saguaro for lack of personnel. We have a situation at Casa Grande which is causing us some worry in the unattended museum visitors but we hope to solve it in the next month or two.

CLOSING

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One of the high spots of the Chaco Canyon report is the news about Threatening Rock. I agree with Carroll that it is time to call on the engineers for some suggestions, but I don't want to take the rock down if we can avoid doing so. We once had an idea of making one or more great steel arrangements like a letter H whose middle bar would be about fifteen feet long and whose sides would be about ten feet high. The material would be of I beam steel, say a ten inch beam or larger, and we would bury the side bars, one in the cliff top and the other in the top of the Threatening Rock, letting them into the rock four or more feet and burying them with concrete. It seems to me two or three such ties ought to hold the Rock and stop all movement except the expansion and contraction of the tie beams which might amount to a little more or less than a quarter of an inch and would not hurt anything. We will ask the Engineers to look into this and give us their ideas.

I am greatly interested in the new method of handling visitors which Carroll Miller is trying out at Aztec. It sounds very logical and will probably be more impressive to the visitor. I would like to urge on all of our men not to be afraid to experiment along any new lines which might occur to them in this matter of handling visitors. We don't know very much about visitor reaction and part of what we do know is probably wrong, so experiments are certainly in order. After Carroll decides which method seems to him to be the best we will try to work out some method of making

CLOSING (CONT.)

a numerical or time check which will allow us to show the results in some tabular form.

Note that interesting detail in Mr. Boundey's report from Gran Quivira about the results on six rattlesnake bits; all recovered except one who is still badly crippled.

Bud's report from El Morro shows what can sometimes happen in the life of a custodian and shows why the life isn't monotonous to say the least.

Sorry I missed Jerome Kendron's visit to Headquarters by being in Washington, but he had a chance to see how the wheels go round and they tell me he made a fine best man at the wedding.

We intend to call the attention of all our Historians to the Cabeza de Vaca problem which Tom Charles raises in his White Sands report this month. It is a most interesting problem and, as Tom points out, ought to be settled or we may have four or five Cabeza de Vaca pageants traveling as many different routes around over New Mexico financed by various Chambers of Commerce, all to the great consternation of the non-historic visitor of the 1940 celebration.

Casual reading of the Montezuma Castle report might leave the impression that Custodian Jackson is now separated from the Service. Such, however, is not the case; he is taking some forty-odd days of accumulated annual leave and, while not technically on duty, will be with us until the end of January. As a little side light on Jack, I might say that when we had some trouble in locating a temporary guide to relieve him, Jack told me over the phone that if we had no objections to his doing so he would much rather stick around during his vacation and help the boys out! So his annual leave is largely technical.

We are glad to welcome Jim and Margaret Felton into our organization as reported by Louis Caywood from Tumacacori. Historical work is a little new to Jim but he has proven himself adaptable in his work at the Petrified Forest and we are sure he is going to make good with us.

Note the interesting find of the two large silver urns in one of the caves in the Capulin Mountain region as reported by Custodian Farr. Here is another chance for the Historians to help us out in checking and dating these pieces for us.

And, as a last word to these comments and to keep the record straight, it is certainly fine to come in from a three weeks trip and find practically nothing waiting on my desk and nothing to do about this report except to check over the excellent work of Don Carlos and Luis, write these few comments and ruminations and then settle back into the routine of watching the wheels go round. We have a fine group down here and it certainly is turning out a lot of good work.

THE Supplement

S·M· MONTHLY REPORT

BANCROFT LIBRARY

RESEARCH

By Robert H. Rose.

INTRODUCTION

The November Supplement contained the first of a series of Special Reports covering research done at Bancroft Library, University of California, on original records of the Missions of Pimeria Alta. This first report dealt chiefly with names of priests officiating at various missions with dates and such historical notes as could be found. Important among the material contained in this report is a mimeographed reproduction of the Padre Kino Burial Record taken from "Libro de Entierros" of Santa Maria Magdalena.

There is sufficient additional material for another one or two Special Reports on historical notes, padres officiating, etc., which has been practically worked into shape for publication. However, in order to vary the subject material as the reports appear, the second Special Report (#12) has been organized about the official reports of Bishop de los Reyes as the material of central interest. Most of the following pages are taken up with translations from Bishop Reyes' reports.

These reports have been known to students of Southwestern history for quite some time and passages from many of them have been cited by various historians. It was thought, however, that translations of the complete reports on those missions of interest to us would be very worth while because having these complete translations in hand during trips among these missions makes possible minute checking up on historically important details.

Perhaps first in importance among historical items this month is the reference, page 427 this report, to the building of a church at Cocospera. Noted here we find "...in the visita of Santiago de Cocospera where the missionary lives at the present time, and where there is being constructed the church..." The writer visited Cocospera in October 1935 with the NPS survey party. At this time it was noted that the present beautiful structure is the ruin of an enlarged and remodeled earlier mission structure. The earlier structure reveals itself as an adobe building with plastered and decorated interior walls. It seems that this adobe church is the building that was under construction in the early 1770's when Bishop Reyes is writing. The extension in front and rear of this adobe church together with the remodeling of the interior, done in burned brick and plaster, were probably accomplished in the very late 18th or early 19th century. No specific reference was found on this point.

A second item of great interest is found on page 431, this report. In the report of the Scientific Commission to Puerto Libertad we find reference to the fact that construction on Caborca Mission was started in 1803 and completed in 1810. Since Fr. D. Tomas Robinson, Chief of the Scientific Commission, is writing of an expedition made in 1861, this would place the construction of Caborca Mission some 50 to 60 years prior

to the work of the Commission. It would be interesting to find other records more nearly contemporary with the actual building of the Church.

Present day visitors to Caborca note the appalling damage being done to the rear of the church by the incessant battering of the river. On page 433 of this report we find Fr. D. Tomas Robinson refers to the river and the damage it is doing. He states that formerly the stream ran in a channel some distance away and that it changed its course as a result of a great flood of the river happening in the year 1828. He further infers that the damage had not yet started in 1828 for he says that "...the church with this change being the nearest to the point of deviation, would be endangered in some new flood, and it would be desirable as a work of public welfare, that the Minister of Promotion, Colonization and Industry, would take it under his exalted consideration." All of the damage we now see at the rear of the church has apparently been done by floods subsequent to the inundation of 1828. Thus, we make two observations of interest; Vix., (1) in the 108 to 109 years past the damage observed has occurred; while (2) it is of intense interest geologically to observe how much transformation has occurred in the meander loops of this river in the period of slightly more than 100 years. Of further interest is the fact that in these 108 to 109 years the Minister of Promotion, Colonization and Industry has apparently not taken the matter of altering the stream to its original course under his high consideration.

Because of its interest in helping us spot the location of the earlier San Xavier Mission I am including in full the article by Rev. Father Mark Bucher, which appeared in the February 1936 number of the Hispanic American Review. No translation was involved in this article so it appears exactly as written.

On Page 427, this report, we see reference to Tumacacori as follows: "The town of San Jose de Tumacacori is situated seven leagues south of Guevavi, and one from the Presidio of Tubac..." This would just about describe the location of Tumacacori as we know it today. Again, on page 426, this report, we find "...The mission of Guevavi with three visita towns, is the most easterly of Upper Pimeria; to the east (oriente) at a short league from the town of Tumacacori is situated the Presidio of Tubac; to the west (occidente) at a distance of 12 leagues, the Mission of Suamrica ..." According to this last note, for Tubac to be located a short league east, Tumacacori at that time would have to have been situated a short league west of Tubac. This would describe the location of Tumacacori as somewhere along the flanks of the Tumacacori Mountains and in one of the valleys that opens out just west of Tubac. Since there is a discrepancy in describing the location of Tumacacori, between pages 427 and 427 this report, and since both references are from Bishop Reyes, one or the other is in error. It would be well, however, to explore thoroughly the canyons and mountain flanks west of Tubac because to date nobody seems quite sure of the location of the original Tumacacori Church of Kino's day, or of any church that might have within a few decades replaced this Kino Church. I call attention to these two varying descriptions in location in the hope the someone may do a little scouting.

CUCURPE

Reyes - July 6, 1772 (Los Santos Reyes de Curcurpe) P.749-
Pimeria Baja (Lower Pimeria)

The Mission of Cucurpe is the last and most northerly of these which are commonly called Lower Pimeria and the province of Sonora. At the present time it is reduced to a lone (sole) visita town, due to the other town's, named San Juan Bautista de Saracache, having been abandoned by order of the governor of the provinces. The soil of this abandoned town is very advantageous and the most rich in minerals of the province; in the year 78 (Is this an error and should it be 1768 and not 1678?) some gold and silver mines were being worked, and it was peopled with nine storekeeper's shops, and one hundred and thirty-seven families of Spaniards and "gente de razon." Of Indians native to the town it is evident according to the censuses: that before (the town's) becoming a mining camp there were forty-eight families; but at the time of the abandonment in the year 70 there were left only five families who congregated in the visita town of this mission of Cucurpe. All the land of this mission is continuous, broken, hilly country and ravines barren of trees for building (purposes) and of small valleys and level lands ("planes") for tilling and sowing. To the East at a distance of fifteen and twenty leagues this mission borders upon the towns and missions of Banauchi and Arispe, belonging to the Valle de Sonora. To the west all is deserted land up to the California Gulf thirty leagues distant more or less. To the south fourteen leagues (away) is situated the preceding mission of Opodepe, and fifteen leagues to the northwest (is) the mission of San Ignacio of Upper Pimeria.

DELORES: 750 -

In order that one may understand the actual state of Cucurpe Mission, it is necessary to mention, that four leagues north of the town of Cucurpe, is found situated a small farm of Spaniards and "people of reason" - who say they bought, or had given to them, all the land occupied by the towns and the old Mission of Delores which Padre Eusebio Kino administered for many years, and (which) served as a yardstick (model) and base for settling and establishing the missions of Upper Pimeria. This ancient mission is the one which is now called (the) town of Delores, whose fertile and extensive lands are divided up among farmers, who for the cultivation of their farms, (and) help with their cattle, admit and give a share to as many evil-doers and vagabonds as care to accommodate themselves. Of "Hiaquis" (probably Yaqui) Indians, alone, the missionaries of Cucurpe have counted sometimes thirty-five families who were publicly regarded as married, almost all being Indians fugitive from their villages and thieves and women unfaithful to their husbands; with this liberty some deviltries increase notably in this town of Delores, where there is no longer a church nor a minister, as this missionary of Cucurpe administers to them, without the least bit of interest, the holy Sacraments and performs the offices and burial services (interments) when, they bring the dead, in order to bury them in lands of the mission. This disinterest is common (general)

and notorious with all of the missionaries of the college of Santa Cruz with the Spaniards and "people of reason" who live in the missions, in mining camps and farms (which), although they may be very distant, always when they are called help quickly; and if some died without the holy sacraments it was because they did not give notice in time, or because they did not want to enjoin in the known risk and danger of those frontiers and enemy lands. The missionaries do not find reason to obligate the Indians of the mission to accompany them. They serve in this continual and painful administration of the towns, farms of the Spaniards and "people of reason", and for (the occasions) when these die, only the Indians serve as pall-bearers, to dig the graves, and set the tombs in order to bury them; and, finally, it appears to be against reason and justice, these Spaniards' and peoples neither serving nor supplying with the least thing for the construction and maintenance of the churches of the missions. They solicit and desire to be the only ones to have the right of burials, (and) reserved (designated) sepulchers within the temple, and that the Indians of the town should be buried in the striums or cemetaries; but the Indians have to do all this and the missionary has to conform, if he does not wish that they should slander him with the accusations and complaints which these residents (neighbors) of Delores have made several times against the missionary of Cucurpe, writing to the governor of the provinces "that the Padre-missionary wishes to order all that which is the royal jurisdiction; that he offers resistance to the decisions of the governor and orders of the King; that he is the enemy of the Spaniards and of "people of reason" and other tales which they have skillfully fabricated and (which they) know are listened to with pleasure.

CUCURPE - Cont. P. 751

The town of Cucurpe is situated on a highland or plateau hard by a stream which in rainy season runs turbulently. It is entirely surrounded by mountains and high, useless, barren hillocks, and only on the northern side does it have a narrow valley with good lands where the Indians cultivate, and work their individual plots of wheat, corn, chickpea and other seeds; but they are (involved) in continual disputes with the residents of the neighboring town of Delores, who aspire to and say that the limits of their town will be extended very near to the plots of the Indians of Cucurpe. The Padre Nicolas de Perera, Jesuit missionary, in behalf of the Indians, bought for the sum of six hundred pesos the lands of a ranch which were in between the farms of the Indians and the lands of Delores; in their claims (pretensions) and contentions with the Indians of Cucurpe, this means had not been sufficient to curb those of Delores. Those of Cucurpe are of the Eudebe and Opata nations, similar in tendencies and customs to their neighbors and relatives of the preceding Mission of Opodepe. The church of the town is ornamented inside with two tiny collaterals and four altars with various paintings or several (pictures) and (lienzos) linen hangings with their borders gilded. The structure of earth has roofs of good wood and straw, and the sacristy has four

chalices, a custodia, a large drinking cup, a high cross, processional candleholders, an incensory, a holywater pot, four candlesticks, and a lamp, with other little adornments all made of silver, vestments (ornamentos) of all kinds and colors, with (the) decorations sufficient for altar and divine worship. The house of the Padre-Missionary forms an inner patio (court) with the church; (he) has an ample and adequate dwelling, and corresponding offices; the structure of earth, and although it is new, ruin is threatening some (of the) dwellings and offices. The settlement of Indians appears to make a plaza with the church and missionary's house; some have constructed their houses of adobes, but very squatty, and so little elevated that they do not attain the average height of a man; they are generally very poor in furniture and temporal goods. The most diligent and energetic ones have yokes of oxen. During these last years they have been spoiled by wandering over sandbanks neglecting to plant or cultivate their plots, for which they have suffered many needs and hungers. Owing to the shifting about of the Indians, the women are the ones who work in their individual plantings, but due to this method, although it meets the necessity, there arise great ills and injuries because being a frontier of enemies, these are able to kill and steal at will, and the Indians continuing in their disordered liberty there is no one to till the soil and defend the town, and it will be necessary to abandon it to the enemies. By the census which I have now there must be seventy-three families, four widowers and nineteen widows, twelve orphans, and the (total) number of souls is two hundred eighty-six; almost all understand and speak the Spanish language, and those who are willing to attend (the teaching of) the catechism are fairly well educated. The communal properties (temporalities) of the Indians are five hundred head of sheep, sixteen (head) of cattle, nine horses and mules, some ranches or small farms where they say there are wild cattle (being) raised belonging communally to the mission. They sow a plot of wheat, corn and other seeds and an orchard of trees adjoining the house of the Padre-Missionary; some Spaniards live in this town and many families of those who are called "people of reason" ("gente de razon") and in some years the number of these is greater than that of the Indians of the town.

TUAPE (San Miguel de Tuape) 752.6

The town of visit San Miguel de Tuape is situated on the flat top of a hill above the arroyo, seven miles south of the preceding town of Cucurpe. The next year of seventy, a terrific freshet of the river carried away all the lands and orchards of the natives of this town, so that at present there are none, nor does this town have lands for tilling and sowing within a distance of two or three leagues; they are of the Eudebe and Opata nations, speak their own language and very few understand the Spanish; generally, they are ill-inclined, idle and disobedient to the counsels and corrections of the Padre-Missionary. The children and some (of the) old people know the catechism and principal tenants of our holy religion, but the rest, because they are not willing to attend the teaching of the catechism, are ignorant of the necessary

(knowledge) with the (consequent) necessity of a medium in order to be able to save themselves. Almost all live needily, hungry, (starved) and naked. The church is large, the construction is of adobes (unburnt sun-dried bricks) roofed with straw and earth. Inside (it is) ornamented with two collaterals of linen, their borders gilded. The sacristy with two chalices, and a silver case; five chasubles, a white priest's gown, an amice, and other ornaments of altar and divine worship all very old and almost unserviceable. The house of the Padre-Missionary was ruined completely this next year of seventy. The town of the Indians composed of scattered huts and tiny houses of adobes is situated in the flat top of the aforesaid hill. By the census which I have now there must be forty-eight families, three widowers, twelve widows, and the (total) number of souls is two hundred twenty-eight. The properties (temporalities) or goods which are communal, are seventy head of cattle, a small planted field of wheat, corn, and an orchard of trees, whose fruits, although it is said they are for the Padre-Missionary, belong in common to the whole town. This is the present day state of the Indians and missions without any omission of any information for personal and material reason.

GUEVAVI

Documentos para la Historia de Mexico

Page 582: - F 1203 - D63-3 Ser. X

From Guevavi we took Southward along the Las Bolas Road towards the missions which remain (falten) and it is through a ridge of mountains whose pass is about ten leagues from Guevavi towards the south; and from Bolas we arrived two leagues farther to Agua Caliente, the old capitol, but at present very small, because of having been destroyed and having had killed a number of its residents in the uprising. (That) from here to Saric, (head) headquarters of the Mission of this name, with protection of Nuestra Señora de los Dolores, along a southwesterly direction, five leagues through the town of Bussani, visita and station of this mission, two leagues distant from its headquarters, which is located at 31 degrees 56 minutes of latitude and 282 degrees 56 minutes of longitude. The Padre Miguel Gersmer works there (in the mission); he has three visita towns, the one which we already saw from Bussani; another about a half a league from the capitol, Agua Caliente, to the northeast; and the third located at two leagues to the east. In Saric the uprisen (Indians) killed sixteen people consisting of eight Spanish men and the remainder women and children on the night of November 20 of 751 (1751), and the Padre-Missionary on information which he had received succeeded in leaving a half hour before they searched for him at Tubatama, seven leagues away to the south, which is the headquarters of the Mission which follows.

Tumacacori - (F 1203 - D63) -
(3 Ser x)

Page 582: "Doc. para de la Hist. de Mex. Chapter VII & IV
Reyes in 1764

"Here we have to travel another thirty leagues south, to the royal Presidio of Tubac, where we will be able to rest and, in the afternoon, to move on to Tumacacori and Calabasas, two other towns of Guevavi, on the "Gussadac Pima" or "agua grande" which is the principal part and is found in 32° 23' latitude and 263° 12' of longitude. Its missionary (is) the Padre Custodio Jimeno. (It or he) has three towns of visit which we already saw from the road, Benestac, Calabasas and Tumacacori. The first is ten leagues distant to the northeast; the second four to the north and the third seven to the northwest; about one league from the Presidio (is) the fourth which it has, and it was called "Arivaca"; together with its locality the Pimas devastated it in the year 751 (1751), and it used to be about twelve leagues from the headquarters. There is a gold mine near to this town and several silver mines, and they are worked at the present time."

(This note on Tumacacori by Pinart is translated from the French and is placed here for comparison purposes.

Tumacacori: F 811 P 64 "Voyage Dans L'Arizona"
by Alphonse Pinart.

Excerpt from the Bulletin of the Geographic Society
Paris - March 1877. (Translated from the French)

Page 14 -

Having concluded my observations at the Casa (Casa Grande), I left Mr. Walker on the 18th of February (1876) and arrived at Tucson, the capitol of the territory of Arizona, on the morning of the 19th. Tucson does not present anything remarkable, if it were not that it is the first town built by the Spaniards in Upper Pimeria and owes its existence to a mission where the ruins, are seen still on the left side of the town. This one here (Celle-ci) is built American style and preserves all the originality of this population. After Tucson I visited the Mission of San Xavier del Bac where there is found a magnificent church still in good condition and built by the Jesuit missionaries during the course of the last century. It is also at San Xavier that there is found the principal village of the Papago Indians, allied to the Pimas and speaking their language. I took the direction to the south from there, attempting to penetrate into Sonora and visit the two ancient missions in ruins at Tubac and Tumacacori: I arrived near to the Sonoran town of Santa Cruz, but there difficulties presented themselves, and by reason of revolutions which were desolating this unfortunate country, I had to retrace my steps.

(Has desc. Casa Grande also)

TUBUTAMA

Page 583 "Documentos para de Historia de Mexico."

1. Its missionary is the Padre Luis Vivas, (who) has a visita town two leagues to the Southwest. Another four leagues farther in the same direction, comes the town of Ati, headquarters of this mission.....Due to the death of its Padre-Missionary Jose Hafenrichter, he administers this mission pending the arrival of a successor from Mexico. Padre Luis Vivas administers it with its visita Uquitoa three leagues away in this same direction; as also Niterin administers to the extent of his ability the Mission of San Miguel de Sonostac, where the Pimas killed, in the year already cited, Padre Enrique Ruen. Near Uquitoa there used to be a silver mining town in which on the night before the 21st day of November 1757 (1757) the besiegers cruelly put to death Bomesario and some other Spaniards.....

....Padre Antonio Maria Beroz cultivates this mission (Caborca).... with its two visita towns Pitic which we saw, and Bissani eight leagues further to the southwest (the direction of nearly this whole river) and about twenty leagues from the ocean....

In Caborca there had died at the hands of the besieging Pimas two Padres of the Jesuit order, in the year of 1694, the Venerable Padre Fr. Javier Saeta; and in 1751, on the 21st of November Padre Tomas Bello; at the same time they cruelly put to death Padre Enrique Ruen in San Miguel de Sonostac, about fifty leagues to the northwest of Caborca.

OPODEPE

(Mission de Nuestra Señora de la Asuncion de Opodepe)
746 - Doc. Para de la Hist. de Mex. 3d Ser.

The mission of Opodepe with a visita town is situated on the banks of a stream which runs north (and) south between hills and has small plots of level ground for tilling and sowing; to the east, fifteen or sixteen leagues distant are situated the towns and mission of Aconchi; to the east, at a distance of eight leagues, is situated the ruined and destroyed mission of Populo where the Seris used to live stably prior to their rebellion and uprising of the year 40 (1740); to the south, at a distance of twenty leagues, is situated the mission of Ures, and fourteen leagues to the north, the towns and mission of Cucurpe, and on account of the Seris having revealed themselves, the Synod of the mission of Populo determined and assigned that there should be established a missionary in this one of Opodepe, with its visita town.

The town of Opodepe is situated on the mesa of a hill adjoining the stream which runs narrowly encased (encajonado) between a nearby mountain to the west, and the "plan" (Table land) on which the town is situated;

all the neighboring land is barren and has no level ground for tilling and sowing. The good lands which are somewhat distant in a northerly direction, have been taken and appropriated to themselves by twelve or thirteen families of people of reason, who are established in a ranch which is commonly called El Realito; at a short league from this town of Opodepe to the south at two and three leagues there are some level lands adjoining the stream with good soil, where the Indians go to sow their individual plots of wheat, corn and other seeds; in the environs of the town and on shores of the stream some Indians have their tiny orchards with figs, peaches, quinces, pomegranates, and other trees and fruits; the church of this town is being constructed of adobes (while) at the present time a bower with vestibules (porches) of the house of the Padre-Missionary serves as a church. This (the house) is composed of a patio and two inconvenient (uncomfortable) dwellings of which one serves as a sacristy. The adornments and service of altar and divine worship are two chalices, a high cross, processional candle holders, incensory, a lamp, "azetre", and an all silver baptismal case, three new vestments of gallooned (braided, trimmed) cloth, with some other ordinary ones of all kinds and colors. The Indian village is situated on the "plan" of the same hill, its houses badly disposed (placed) and embowered. The Indians say that they are of the Eudebe and Grata nations, but in reality they are a deviation and composite (mixture) of Spaniards, (mulatos) natives (coyotes) and other breeds. These crossbreeds, which almost all who are registered (included in the census) in the town are, wish to be Indians, so that the priest of the locality should not ask and collect his dues and prerequisites, so that the Padre-Missionary should administer, should aid and rescue them in their needs; but they do not wish to be commanded and governed like Indians, nor do they obey the corrections and counsels of the Padre-Missionary; from this original cause there result many ills and gravest disturbances; it is impossible to instruct and indoctrinate them as they require (need); they are of a lively temperament, generally understand and speak the castillian tongue, and solicit clothes to dress themselves with but they are very poor in earthly (temporal) goods; they do not have furniture and their possessions reduce themselves to the small town plots which they harvest and sell immediately or barter for cloth (dry goods) to dress themselves in, and they are always in need of maintaining themselves on the communal goods of the town, or living wandering and (searching) looking for gold in the placers. In the spiritual realm, they generally are ignorant of Christian doctrine and of the principal mysteries so that of necessity they must know (or be instructed in) of a medium in order to save themselves; they have gotten into the habit during these last years of many vices, principally of inebriation, because of the neighbors' and people of "razon's" having instructed them and shown them the method of making (concocting, composing) mescal and rum (chinquirito) from lees of sugar and other drinks which previously the Indians of all these missions were ignorant of, and because this vice and license the missionaries have pitiful experiences. By the census which I have now there must be seventy families, twelve widowers, eight widows, fifteen orphans, and the (total) number of souls two hundred

fifty-seven. The communal properties (temporalities) are a ranch (farm) or plot of land where it is said there are some cattle being raised, thirty or forty head of sheep, six or seven teams of oxen (Yuntas-yokes de bueyes - bulls), fifteen or twenty cows and ten or twelve beasts (probably of burden; i.e. horses, mules, donkeys), a fruit tree arbor (orchard, garden) adjoining the house of the Padre-Missionary, and a small plot which they cultivate communally of wheat, corn, kidney bean, "lanteja" and chickpea (garbanzo); the Spaniards, mulatos and other breeds established in this town are many, and seemingly will be (number) more than thirty families.

748.5 -

The town of visit of Nuestra Señora del Rosario de Nacameri, seven leagues to the south of the preceeding one of Opodepe, is situated on a high land next to the river. To the west (it) is surrounded by high hills and mountains barren of trees for construction (purposes). Between east and south this town has an extensive valley with (of) good land for tilling and sowing. The nearest and best have been appropriated by many (Span. I presume) residents and people of "razon" who are established in this town, and the Indians sow little (land) or none, and in truth they are not to blame, because they are a very small number of families. The native Indians of this town which according to the census appear to have twelve families, are the only ones who have to bear the burden of attending and serving in what is necessary to the Padre-Missionary; of keeping up the communal houses; serving and giving escort to the (continual) mail couriers (possibly passengers of the mails) in order to deliver to their destinations the letters of the royal service and private ones; and, finally, of many other burdens to which the Indians who are of the mission, alone are obligated; and although there are Indians of other missions or gentiles of the frontier nations who serve in the capacity of slaves to the Spaniards and "people of reason" this is the cause which moves the nations of some towns to press (insist on) and beg the sacking of (the) mission rule because as they are simple (souls) it appears to them that by this means they will see themselves free from these burdens and (mis) treatments like the "people of reason". In this town the church and the house of the Padre Missionary are completely ruined. In order to celebrate the holy sacrifice of mass and to administer the holy sacraments, there is a chalice, an incensory, and an all silver (probably baptismal) case; there are three vestments of various colors, with other adornments, very old and almost unserviceable. By the census which I have now there must be 12 families, two widowers, a widow, and the (total) number of souls thirty-four; they are of the lower Pima nation; they talk their native tongue and some understand the Spanish tongue. All are very poor in furniture and (temporal) earthly goods, and some are very ignorant and backward in the catechism and Christian Doctrine. The communal properties are three or four hundred sheep which belong to Opodepe and there are in this town due to the goodly size of the pastures, three or four teams of oxen, and the fruits (harvest crops) of a small plot of wheat,

corn and other seeds. There live in this town more than fifty families of Spaniards and "gentle" to reason."

SAN XAVIER DEL BAC F 1203 D63 3d Ser. X

- (1) "Documentos ... Historia de Mexico "FrAnt^O. de los Reyes -
July 6, 1772.

Page 756 #15

"The town of San Xavier del Bac is situated on a plain, abounding in water and good lands, where the Indians sow some small plots of wheat, corn and other seeds; the church is of moderate capacity ornamented with two collaterals of linen with their gilded borders. There are the (sacristry) vestry with four chalices, two of them unserviceable, a custodia, an incensory (a thurible), an extra conventual dish, and some all-silver mass wine vessels, four vestments of various colors, with other adornments of altar and divine worship, all very poor. By the census which I have now there must be forty-eight families, seven widowers, twelve widows, twenty-six orphans and the total number of souls is two hundred and seventy.

"The visita town of San Jose del Tucson is situated six leagues north of San Xavier. It has neither church nor a house for the missionary. Because of the fertility of the soil, a large number of Christian and Gentile Indians are united and congregated in the form of a town. It has not been possible to make a census, but it stands to judgment (reason) that the heads of families are more than two hundred."

Pimeria Alta (Upper Pimeria): Reyes - 1772

#15 P. 754 - Doc. para de la Hist. de Mex. - 3d Ser.

Speaking of the missions of Pimeria Alta, Reyes says: (754) 754.9 "The churches and dwellings of the missionaries are all constructed of adobes, roofed with timbers, straw and earth. The towns adjoin the churches, but are composed of scattered huts and poorly made native dwellings. Some Indians, in order to please the missionaries, build some houses of adobes, roofed with straw and earth; they plant very little; and in order to cultivate and benefit by their individual plots it is necessary that the Padre Missionary provide them with seeds, axes, hoes and all that is necessary, and if these are lacking (755.2) there is no planting.

"755.8 In the first survey (perhaps a report) it is observed that these missions, towns, and presidios of Upper Pimeria, are situated almost on the same parallel between 31 and 32 degrees north latitude, but it is necessary to note that the three missions of San Xavier del Bac, Guevavi and Suanrlica, which occupy the most easterly land are higher

(either in north latitude or altitude?) than the five remaining ones situated to the west; and in order to proceed with clarity I shall arrange the description in the following manner:

(San Xavier - Guevavi, etc.)

PITIQUITO - (San Antonio del Pitiquin)

P. 765 - Reyes.

The visita town of San Antonio del Pitiquin, two leagues east of Caborca, has neither church nor missionary house. By the census which I have now there must be 75 families, 8 widowers, 11 widows, and the (total) number of souls 370.

The visita of San Juan Del Bisanig, six leagues west of Caborca, has a church and a house for the missionary, but is devoid of ornaments and furniture. The Indians, although they have good lands, plant little or nothing, and have a great predilection for fishing in the estuaries (inlets) and shores of the sea, eight or ten leagues distant. By the census which I have now there are sixty-three families, 11 widowers, eight widows, six orphans and the (total) number of souls 271. In this mission and the towns there have recently recongregated some families of rebels who were reduced in this last campaign; and by the letters of the padre missionaries it is known that at the beginning of this year of 72 some of these rebels were deserting and running off to the hills (cerros).

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The river Gila runs from east to west directly opposite these towns of Pimeria, until it empties into the famous Colorado River which runs its course from the north, and united, these two rivers form a bow deflecting to the south, emptying their waters into the upper part of the Gulf of California. In the area of land which the missions bound, together with the two cited rivers and the sea of California, there are found settled the Sobaipuris Indians, the Papagos, the Yumas, the Guaicamas, and the Cocomaricopas, and all gentle; and they have manifested great love for the missionaries, especially for Padre Garves (Garcés?) missionary of San Xavier del Bac who has visited them often; and they have requested (him) that he should come to live with them and bring other poor Padres, similar to Padre Garves, towards whom they had attained a great inclination and affection. Of all these nations or factions the one of the Papagos who are settled at short distances to the north of the missions, is the most numerous. These Papagos, part gentile and part Christian, speak the same language as the Pima Indians; from the towns and with the proper arrangements, the Padre Missionaries can gather them and reestablish and augment the missions of Upper Pimeria whose present day state (or poor condition) remains annotated clearly, and truthfully.

1. Mexico, July sixth, seventeen twenty-two - Fr. Antonio de los Reyes

Note:

2. This reverend father was then the first Bishop of Sonora

(1 & 2 above apply to the accounts of all of the missions copied thus far. Cucurpe is in another section.)

TUBUTAMA

Page 76 - 4th Ser. Doc. Hist. Mex.

Reply

Which Padre Jacobo Sedelmair gave to the charges which the Padre Inspector General made against him.

"I entered as missionary in Tubutama in the year 1736; and in the twelve towns which were entrusted to my administration I did not find a single decent church or cemetery, and the majority of the towns were without houses, with few people present; and so it is true that taking the people out of their mountains (wilds) and gathering them together, I made them build in each of the seven main towns a church, construct and fence the cemeteries, and in eight towns I built a house for my subsistence, while all the time, not staying in one place, I went visiting these towns for their administration and for the teaching of the catechism which they need so much. These churches, cemeteries, and house, I built, constantly changing the Pueblos (crews of workmen) for the work; and with the roaming Papago Indians, gypsies and good for nothings who came down to work gladly, who ordinarily seemed so hungry as to appear as skeletons, and at the end of five or six weeks some of them returned to their lands fat, and others came. In this construction work their manner of work was: to gather between eight and nine o'clock and to quit about four; those who dig the ground do it seated; they carry two baskets of mud in their hands; they sit down to rest, and the same with the others; but something was accomplished with them, because of their being many. This construction work was done during the most leisure times, and when the Indians were not busy with their corn-crops."

79.3 - "I now refer to the land situation: I say, and it is the truth, that since I gathered so many Indians at Tubutama, following my instructions in the harvests, I was assigning the Indians the best lands or very good ones near the town with all its conveniences, under the (irrigation) channel of the church, and above a tableland -- I was lending to them very often, and to others, the axes with which to open up (new) lands, never (not) occupying them with other things at those times; so that the town of Tubutama, by my direction and benefaction was seen (very)

much improved even in the dry farming (temporal) of the Indians; and other pieces of land, in this area, they always sowed them for themselves in addition to their own lands, of which I am not in charge, which doesn't worry me since I had not taken them away from them piece by piece, neither good nor bad; and I say that in order to liquidate this (situation) I would have to go to Tubutama to see the strips (of land) which they say were theirs and which I took from them: I say, in particular, of the Indian Ciprian that he is not (a native) of Tubutama but that I converted him to Tubutama together with his village which was of about sixty heads (of people) whose children and adults I baptized; as if for myself I built at my cost in the town a decent house of adobe, beams and flat roof, enabling them of his village to sow, and assigned them land; and thus do not know what lands Ciprian had in Tubutama which I took away from him. I have taken nothing from him; considered and reconsidered I say so, that the Indians have the habit of saving that lands loaned to them and then taken back by the original owner have been taken away from them. But even so Ciprian is not in the right, because if I had taken back from him a piece, I always loaned him another, just as I made loans to so many others; and how come this same Ciprian found so much new land to cultivate, according to what I've now found out in Pimeria, and before he had not done so?

GUEVAVI

(Los Santos Angeles de Guevavi)

Page 757 - Doc. para la Hist. de Mex. (3 Ser.) July 6, 1772.

The mission of Guevavi with three visita towns, is the most easterly of Upper Pimeria; to the east (oriente) at a short league from the town of Tumacacori is situated the Presidio of Tubac; to the west (occidente) at a distance of twelve leagues, the Mission of Suamrica - to the south at twelve and fifteen leagues the missions of the Valley of Sonora, and to the north the preceding mission of San Javier.

The town of Guevavi is situated on level and fertile land, adjoining a stream with good lands, where the Indians cultivate their individual plots of wheat, corn and other seeds, and a small communally sown plot. The church is interially ornamented with two altars and a tiny collateral of linen with gilded frames; the vestry with three chalices, two conventual dishes, and mass wine vessels. There are also a custodia, a large cup (drinking vessel or ciborium), a thurible, an incensory, an all-silver case, vestments of all kinds and colors with other adornments of altar and divine worship. By the census which I have now there must be nineteen families, five widowers, seven widows, twelve orphans and the total number of souls is 86.

The town of San Cayetano de Calabazas is situated two leagues east

(oriente) of Guevavi on a plain with good lands, but the Indians plant it little or not at all. There is neither church nor a house for the missionary. By the census which I have now there must be seventeen families, four widowers, seven widows, and the (total) number of souls is 64.

The town of San Ignacio of Sonoitac is situated in a valley encircled by mountains, six leagues east (oriente) of Guevavi and two from the preceding town of Calabazas. The lands are many and good ones for tilling, but the Indians cultivate them very little. The church and house of the Padre-Missionary has no adorned ornaments nor any furniture; when the Padre comes to this town and the other visitas to administer (them) he brings along all the necessities from the town of Guevavi. By the census which I have now there must be 18 families, 20 widowers and single men, 12 widows, and the total number of souls is 94.

Tumacacori: Page 758

The town of San Jose de Tumacacori is situated seven leagues south (al sur) of Guevavi, and one from the Presidio of Tubac, on a plain and with good lands. In this town there is a church and a house for the padre-missionary, but they are nude of ornaments or furniture. By the census which I have now there must be 22 families, 12 widowers, 10 orphans, and the total number of souls is 93.

Suamnea (Santa Maria de Suamnea)

Page 758:

This mission and town of Suamnea was attacked by Apache enemies in the following year of sixty-eight. They burned the church and houses of the mission and reduced them all to blood and fire. By the will of the savages the Padre-Missionary was saved, who, gathering some men, women and children, took refuge and gathered in the visita town of Santiago de Cocospera where the missionary lives at the present time, and where there is being constructed the church; but the soil of this town is infertile and there is a lack of water, due to which the Padre-Missionary and the Indians native to Suamnea have made repeated petitions to reestablish their ruined town which used to stand in a spacious valley with good lands for tilling and planting, five leagues from the Presidio of Terrenate. This is the present situation of the mission of Santa Maria de Suamnea whose natives, united with those of the visita town, comprise the number of 30 families, five widowers, 20 widows, and the total number of souls is 110.

Note: In the above account we find the following:

".....in the visita of Santiago de Cocospera where the missionary lives at the present time, and where there is being constructed the church....."

On the occasion of visiting Cocospera Mission in October, 1935, it was noted that the present structure is the result of remodeling and extension of an earlier adobe mission building. The plaster could be discerned on the inner walls of adobe. Apparently at some later time burned brick and adobe were used to remodel the interior of the adobe church and extend it on the front and on the Sanctuary end.

Judging from the fact that other mission structures like Caborca, San Xavier and Tumacacori are early 19th century structures, the remodeled and extended mission at Cocospera also probably dates from the early 1800's. If this is the case then the church referred to above as being under construction in 1770 at the time Bishop Reyes is writing, was the earlier adobe church.

San Ignacio (San Ignacio de Caburica)

Reyes - 1772 (Doc. para la Hist. de Mex.) 3d Ser. - F 1203 D 63 X

Page 759

The Mission of San Ignacio with two visita towns is situated in a spacious flat lowland surrounded by high mountains; hard by the towns there runs a stream which offers easy irrigation for the many and good lands of these towns. To the east of this mission at a distance of 12 leagues is situated the town of Cocospera of the ruined mission of Santa Maria of Suamrica. To the west with some deflection to the south at a distance of five leagues are congregated some Spaniards and "Gente de Razon" in a small farm or stock raising ranch of cattle and horses which is commonly called the Santa Ana Camp, without a church or minister of the gospel. To the south with some deflection to the east is the mission of Cucurpe, fifteen leagues distant, and to the north the gentile nations and all the known land up to the river Gila.

The town of San Ignacio is situated on highlands surrounded on the north by high mountains. The Indians cultivate their individual plots and also communally plant corn, wheat, beans and other seeds. The church is interiorly adorned with three tiny collaterals. The sacristy has four chalices, four candlesticks, a custodia, a lamp, an incensory (censer) a wafer cup, and an all silver baptismal case, vestments of all sorts and colors with other adornments sufficient for the altar and divine worship. The house of the Padre-Missionary adjoins the church, but there were ruined during the next (proximo) year of '70 (1770) several dwellings and offices adjoining the church. The house of the Padre-Missionary has a large orchard with many choice quince trees, peach trees, and pomegranates, and due to the lack of cultivation there has been lost a good vineyard. By the census which I have now there must be 36 families, four widowers, seven widows, 15 orphans, and the total number of souls is 148.

Imuris - Reyes - July 6, 1772

The town of San Jose de Himuri three leagues east (al oriente) of San Ignacio is surrounded on the west and north by the mountains; it enjoys good lands, but the Indians work little or not at all at cultivating them.

The church and the house of the missionary are almost ruined. The ornaments of the altar and divine worship reduce themselves to a chalice, three chasubles, two white priest's gowns, three amices and other adornments, everything old and almost useless. By the census which I have now, there must be seven families, six widowers, nine orphans, and the total number of souls is 39.

Tubutama

(S. Pedro Y S. Pablo de Tubutama)

Reyes - "Doc. para la Hist. de Mexico - July 6, 1772"

Page 762:

The mission of Tubutama with a visita town is situated to the west with some deflection northward from the preceding one of Sario; eight leagues distant to the south lies the abandoned land of lower Pimeria; and the Papagos and other gentile nations are to the north up to the Colorado and Gila Rivers, about seventy or eighty leagues distant from this mission.

The town of Tubutama is situated in a spacious flat lowland of good and fertile soil where some Indians cultivate their individual plots and plant communally, wheat, corn, beans, and other seeds. The house of the Padre-Missionary is tidy and roomy, with an adjoining orchard of quince, pomegranates, peaches and other trees. The church is fully ornamented with two altars of linens with their borders gilded, with a tiny collateral in view (de perspectiva). The sacristy has three chalices, a custodia, a high cross, processional candleholders, a thurible (censer), three extra conventual dishes with their mass-wine vessels made entirely of silver, vestments of all kinds and colors, with other rare adornments for the altar and divine worship. By the census which I have now there must be forty-five families, twelve widowers, six widows, 18 orphans, and the total number of souls is 176.

Santa Teresa - Reyes 1772

The visita town Santa Teresa, two leagues east of Tubutama, has a tiny church denuded of ornaments and adornments, and a small Padre-Missionary's house. By the census which I have now there must be 13 families, seven widowers, two widows, and the total number of souls is 52.

Ati

(Mission de San Francisco Ati). Reyes - 1772 - July 6th.

The mission of Ati with a visita town is situated in a valley six or seven leagues long and two or three leagues wide, surrounded by high mountains and a stream with good and abundant waters. To the east with some deflection northward is situated the preceding mission of Tubutama four leagues away, and seven leagues to the west with some deflection southward is the Presidio of Altar.

The town of Ati could be the most prosperous and fertile settlement of Upper Pimeria, but at the present time it is reduced to that which the Indians wish to plant, which is little or nothing, individually (en particular) or communally. The church is a tiny chapel without ornaments. The sacred vestments of the sacristy are a chalice of silver, an incensory (censer) of copper, three old chasubles, a white priest's gown, an amice, and other vestments of altar and divine worship, almost useless. By the census which I have now there must be 36 families, seven widowers, two widows, 15 orphans, and the total number of souls is one hundred and thirty-seven.

The visita town of San Antonio de Oquitoa (Huquitoa), five leagues distant to the west of Ati, does not have either a church or a dwelling for the missionary. By the census which I have now there must be 23 families, nine widowers, five widows, ten orphans and the total number of souls is 106.

Sario

(Mission de N.S. de los Dolores del Sario) - Reyes

The town of Santa Maria Magdalena is situated two leagues west of San Ignacio and three from the aforementioned camp of Santa Ana. The house of the Padre Missionary is entirely ruined. The church is large, but almost ruined and only a chapel of San Francisco Javier has decent adornments. There are the sacristy with a chalice and a silver baptismal case, three chasubles, a white priest's gown, two amices, an incensory and two copper candlesticks, with other adornments of altar and divine worship very poor and almost useless. The native Indians of this town, although they enjoy good lands, plant them little or not at all. By the census which I have now there must be 19 families, five widowers, one widow, six orphans, and the total number of souls is 86.

This mission is reduced at the present time to a single visita town, because of the two towns of la Arizona and Busani having been abandoned in the following year of sixty-six, because they were continually being attacked by the ferocious Apaches, whose natives gathered in the two towns which exist at present. To the east at a distance of twenty leagues is situated the preceding mission of San Ignacio, and eight leagues west

of Tubutama; to the south the abandoned land of Lower Pimeria, and to the north the villages of heathen Indians and other gentiles who populate all the known land up to the river Gila.

The town of Sario is situated in a valley encircled by high mountains. Hard by the town runs a stream to the many and good lands of this mission. Some Indians cultivate their individual plots and also plant communally wheat, corn and other seeds. The church is interiorly ornamented with a collateral of linens, with its frame (borders) gilded. There are the high cross and an all silver baptismal case, vestments of all kinds and colors with a scarcity of other ornaments for the altar and divine worship. By the census which I have now there must be 32 families, 15 widowers, four widows, 12 orphans, and the total number of souls is 136.

The visita town of San Jose de Aquimuri two leagues southwest of Sario, has neither a church nor a house for the missionary. By the census which I have now there must be 14 families, five widowers, two widows, and the total number of souls is 58.

Caborca and Pitiquito

"Geografica y Estadistica" Vol. 10 (F 1201; S 62 a V 10)

A. "Account of Puerto de la Libertad"

In the Altar District (by the Scientific Commission to Port Libertad)

Page 273.

1. Pitiquito: This town is 24, 17-100 leagues distant from the port of Libertad along a good wagon road (observe the chart): it is situated one and a half leagues below the confluence of the San Ignacio and Altar Rivers, and is one of the greatest agricultural localities that this district contains. The town, which contains 1,200 inhabitants, extends about 750 meters from east to west by 160 from north to south; it has a good church and excellent farming lands located lengthwise along the river lowland with dimensions of one and a quarter leagues by three-quarters of a league in width. There are harvested superabundantly corn and beans; about 8000 fanegas of wheat; and its settlers (Span.) who also apply themselves to the raising of cattle possess more than 2,000 head.

2. Caborca - p. 273

"This town, distant 24,22-100 leagues from the port of Libertad along a good road is found situated on the lowland of the river Altar after it has formed the San Ignacio, and it is the second of the district in agriculture and the first in mining, for in the mountains which surround

it (Caborca) most of the mines are found there which the ancients (old explorers probably) used to work and four which are actually being worked. It contains a population of 800 souls; its farm lands which extend one league from east to west by a quarter of a league from north to south produce annually 6000 fanegas of wheat; plenty of corn, some beans, cane, etc. There are about 5000 head of cattle and horses raised on the surrounding farms and ranches, principally on the Calera Ranch belonging to D. Diomsio Gonzales. It has the best church in Sonora which the Jesuit Missionaries began to build in 1803 and which was completed in the year 1810. The farming of this town could be increased considerably and at very little cost, by changing the course of the river to the old channel which it had before, because in the old channel are to be found deep holes full of water which its current carries under neath the sand by which they are covered, and which formerly used to serve not only to irrigate some lands of Caborca but also those of Bisani which are extensive and of good fertility. The great flood of the river happening as a result of the rains of the year 1828, made it change the east to west course which it formerly had diverting it almost into the first houses of the town towards the south; the church with this change being the nearest to the point of deviation, would be endangered in some new flood, and it would be desirable that as a work of public welfare, the Minister of Promotion, Colonization and Industry, would take it under his high (exalted) consideration.

Notes (R.H.R.)

Commission

1. Formed during administration of Fr. Don Ignacio Pesqueira of Sonora.
2. Fr. D. Tomas Robinson - Chief of the Scientific Commission.
3. Done in 1861.
4. "Jesuit Missionaries" an error; must have been Franciscan.

(Vol. 10 - "De Geografica y Estadistica")

F 1201 - Sqr Co. Vol. 10

a. Page 673 contains material on Nuestra Señora de Loreto.

Caborca:

F 1245 V 43

R. Velasco Ceballas: - Will the United States possess itself (take possession) of Lower California?" Pub. Mex. - 1911.

The Crabb Filibuster: - page 12.

The seed of the filibusterers Long, Edwards, Walker, continued giving its fruits. In the year 1857 it produced Henry Crabe who boldly penetrated into the State of Sonora.

The Sonorans, in gallant proof of their love of their native land and of bravery, attacked Crabe in the little town of Caborca, surrounded him, defeated him and knocked him to smithereens. Of the hundred and sixteen

men who composed the filibustering company, one hundred and fifteen died at the hand of the defenders. The remaining one, after having him in their power, they granted his life so that he could return to the United States to tell of the disaster.

Guevavi
"Documentos para la Historia de Mexico"
Series 4 Vol. 1

In "Informe a su excelencia por el Padre Miguel Quijano" the following excerpts are found:

P. 45. "The history of the prisoners of Guevavi, the account of their witnesses who were present and knew very well that which occurred; D. Jose Antonio Ortiz, D. Joaquin de Cazares and Jose Romero and another; those who affirm that it is untrue that they were to blame for the lance thrusts which they (the prisoners) wish to represent; that what happened was that having known in Ariac, whither Padre Garrucho had gone to give a confession, they had stolen from his mission a drove of horses. An Indian, offering himself to find the theft and the robbers, the Padre had said to the governor Lorenzo, to the Captain and to the Mayor of Ariac, that they, guided by the Indian who was offering himself to find the theft, should go in (search) hunt of the thieves, and finding them with the plunder, should bring them to Guevavi....."

Mission San Xavier del Bac, Tucson, Arizona. P. 190

Vol XVI; Feb. 1936; No. 1; page 91.

By Rev. Mark Bucher, O. F. M.

"Who built the present Mission San Xavier del Bac, has of late been a mooted question. Two assertions have been made. The first was that the structure was the work of the Jesuit missionaries. Later, when certain architectural features, distinctly Franciscan (eg. the Franciscan coat of arms on the facade), were pointed out, it was asserted that the mission was begun by the Jesuits and completed by the Franciscans. The purpose of this paper is to show that still greater modification must be made to the original assertions, for the mission was entirely the work of the Franciscans.

While I was staying at the Old Mission of San Xavier near Tucson, several questions gave me great concern. Why was the name Bac or Baac (meaning "where water comes out of the earth") given to this Indian village, when there is not even a traditional water spring nearby, and the river is over a mile away? How could the Jesuit missionaries, who followed Kino in the first half of the eighteenth century, complain in their reports that the mission was located in a swampy place, frequently inundated by the river, when the present mission site and the village lie on

ground several hundred feet above the river bed? Again, how could H. E. Bolton of the University of California imply that Grotto Hill was about a "quarter of a league" distant from the mission, when they are next door neighbors? Finally, how could the Jesuit missionary, Kino, enter in his diary the observation that water would flow into each room of the completed mission buildings, for which he had laid the foundation that day, when even now, no water can be led to the lowest point in the present buildings, even after the government has built a dam several miles up the river?

In order to solve these puzzles, I began to interview the Indians in the village of Bac, as well as the old inhabitants of Tucson, to learn, especially from the former, their traditions concerning the mission. According to these, Bac, the Indian name for the village, had reference to the Santa Cruz River, which is mostly a subterranean stream, but here and there emerges to the surface and flows like a normal river. One of the places, where the river flowed above ground, was about two miles northeast of the present village of Bac. However, I was informed that this village had not always been located at its present site, but lay to the northeast, on the left bank of the river. Hence originated the name "Bac". The first query was, therefore, readily answered.

The solution of the first question furnished a key to the remaining queries. Aided by what I had gathered in lengthy talks with the Indians and almost equally long conversations with old Mexican families in Tucson, and assisted by Father Bonaventure Oblasser, O. F.M., an Indian missionary among the Papagos, I set out to locate the place, if possible, where the village once lay, and with this, the conjectural spot of Kino's church. From different sources, I had learned that until the close of the previous Century, there could be seen in a field lying to the north of the present village adobe walls ranging in height from three to nine feet. That these walls were the remains of Kino's Church, no person would even remotely maintain, since the missionary himself tells us that he used tezontle rock for foundation, while these ruins, to all appearances, were adobe. Appearances were deceitful in this instance, for the adobe, as investigation proved, had been laid upon a tezontle foundation, and had washed down on both sides and completely enveloped the foundation stones. This was brought to light by the plowing up of that whole section by a land company, which was unaware of what it was doing (in an historical sense). On finding these stones, the workmen carried them to the southern boundary of the field, as was learned from one of the men who had worked on the project. Here these stones lay, hidden for the most part by mesquite and ironwood, until in one of my exploration trips I happened to stumble over them. On digging nearby, I found fragments of pottery lying in great profusion all around. On another occasion I found a wide ditch now only faintly traceable and running down to the river bed. At the jagged edge is the cliff. Upon digging in the sand, I uncovered what looked like the remains of a dam. Likewise, where the water had washed broader and deeper, human bones could be seen.

These discoveries pointed to the evident conclusions that the old village of Bac or Baac had been located here; and that this was the place where Father Kino had laid his foundation stones of Tezontle. He says in his diary under April 28, 1700:

"On the twenty-eighth we began the foundation of a very large and capacious church and the house of San Xavier de Baac, all the many people working with much pleasure and zeal, some in digging for the foundations, others in hauling many and good stones of tezontle from a little hill which was about a quarter of a league away. For the mortar of these foundations it was not necessary to haul water because by means of irrigation ditches, we very easily conducted the water where we wished. And that house with its great court and garden nearby, will be able to have throughout the year all the water it may need, running to any place or work-room one may please....."

As one stands in that field which was the original site, there looms up to the south, a short mile distant, the hill from which the tezontle rock was hauled, and where even today, that same variety of stone can be found in abundance, while on Grotto Hill, there is no such stone, either on it or in it.

These discoveries satisfactorily solved in various queries. Even now when the river, swollen by heavy summer rains, breaks its bounds, this section is still inundated and still suffers from unchecked erosion despite money appropriations by the Federal Government. When Kino's buildings were finished, water could be led "very easily" into any room for it ran naturally down hill. Finally, Dr. Bolton, writes me that he was unacquainted with the topography of Bac and that he is ready to accept my findings.

Rev. Mark Bucher, O. F. M.

Santa Barbara, California.

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KISHMUS PARTY

By Sallie Pierce Brewer

The Navahos gathered at the big "show" hogan for the Christmas party this year---thirty-six of them, by a fairly accurate check-up.

Four days before the 16th we had gotten the fir tree from the Peaks; two days before we had gotten the presents in Flagstaff; and the day before and day of the party we had cooked, wrapped presents, and trimmed the tree. At one time on the afternoon of the 16th I counted seven pots on the stove in the cook shack, not including a washtub full of beans which two Navaho boys had just carried over to the hogan; the other pots were full of rice and dried fruit.

Our friends of Wupatki Basin were all there of course; Nezca Yazzie and his family had made a 25-mile wagon trip from above Grand Falls, arriving a day ahead of time; seven of the Bela Cody family came almost as far; a nephew of Clyde's rode down from Gray Mountain (Coconino Point) with sacks of pinons and greetings from some of the Peshlacaïs up there; the inevitable modern touch was added when two Navahos arrived in a car--they had come for Nanil Cady, the medicine man, to sing the next day at their hogan--and had come in time for the feast.

Jimmie and I were awakened about sunup the morning of the party day by Nezca Yassie and family coming in to sit on the benches and wait for us to get up; it appeared that since he had come a day early he thought it was high time the party started--we had asked them to come, here it was sunup, and they had no flour or sugar! We realized how lax we were being in our duties as host and, as soon as we could persuade them to leave, got up and about the business of providing food.

Clyde and Sarah were the next arrivals, and set to helping us immediately; Clyde marshaling the boys to carry food and Sarah producing enough pots to cook with. With the gathering of the rest of the guests in the late afternoon I was asked for tissue paper and cards and they wrapped their presents to us; I stood discretely to one side and wrote "Jimmie from Katherine" and "Sallie from Clyde" on cards as they brought them to me.

That important business being over everyone adjourned to the hogan; after the tree was trimmed (with Hendron and Clyde throwing tinsel and snow with a will) we ate. And we really ate; besides the beans, rice, and fruit, we had tomatoes, and mutton, and bread and coffee. And I think we had enough, because the men left the bowls half full when they leaned back to smoke the cigars Jimmie passed, and that's the first time I've seen Navaho men fail to eat all that was put before them!

Before we went out to the tree the Brandeis came--they are long-time friends of the Peshlacaïs--and brought a crate of oranges and candy. They were passed after distributing our presents; then came the opening of the big box of clothes (contributions from whoever would contribute). Clyde

NAVAJO CHRISTMAS PARTY (CONT.)

took over here, and had a fine time throwing socks, shirts, and hats around; everyone got something but Clyde--and Jimmie put by a couple of shirts to give him in the morning. When it was all over, the grown-ups were, like most grown-ups, watching the children get acquainted with their new toys, and we white people were admiring rugs and bags and jewelry they had given us.

The Museum of Northern Arizona had given some pictures of old rugs; I had covered these and twelve plates of old bow guard and pendant designs with cellophane; these pictures we passed around the assembled group and explained that we were leaving them with Clyde and Sarah as a sort of "lending library" for the weavers and silversmiths to consult from time to time.

We rather hated to say goodbye at what may be our last Navaho Christmas party for our friends, so we slipped away soon after that; but most of them were up at the Pueblo early the next morning asking if they would see us next year and when we would be back to visit them.

*****OO*****

GROUND SLOTH CAVE

"Willis Evans, searching for archaeological sites along the Colorado River under direction of M. R. Harrington, scientific advisor to the National Park Service, has located a ground sloth cave, at a site in Arizona eight miles from Pierce's Ferry, containing two ground sloth skulls, some hide and hair, and dried internal parts. Excavations at the cave, which extends into the canyon wall some 200 feet, are being conducted under direction of the National Park Service. Another cave, containing Indian material, located three quarters of a mile farther up the canyon, is to be excavated at a later date." (Extracted from Museum News, December 1, 1936.)

The above-mentioned ground sloth den is located on the Colorado River just below the Grand Canyon, but within boundaries of the Boulder Canyon Recreational Area. Plans for showing the cave to the public have not been completed but it is hoped that an exhibit in situ can be made. Tentative plans include running a trench through the cave and lining the walls of the trench with glass so that bones or any possible human artifacts may be seen.

*****OO*****

RUMINATIONS

After being almost the entire month in Washington, the first thing I hear when I set down at the desk expecting to get caught up on the

RUMINATIONS (CONT.)

things that have happened during my absence, is Luis calling, in his gentle, flute-like voice, for some ruminations to close the Monthly Report.

Naturally my thoughts turn on my recent trip and a hundred things crowd through my mind like the flashing changes in a kaleidoscope.

There is the fat lady in the lounge car whose strident voice still reaches me above the rhythmic roar of the swiftly moving train.---There is the little lady who is quietly busy so much of the time with pad and pencil and who turns out to be a cartoonist for a couple of national magazines and who is greatly interested in that episode Carroll Miller wrote up in his last month's report.---There is the interesting discovery that the Field Museum takes advantage of the right hand movement of its traffic and delays lighting the halls to the left of the entrance for nearly an hour after opening the building in the morning, thus making a material saving in its monthly lighting bills, and proving, to our great pleasure, that it pays to study visitor traffic movement.---There is the swift change from the lazy days on the train to the busy morning traffic of Washington; stepping out of the taxi through the lobby and into the council room where fifty men are hammering through to compromise their fifty viewpoints on their various problems.---It is a high pressure day full of food for thought.---Then up to that intriguing room with its five doors, its triangular bath room, its quiet interior court where the street clamor cannot reach and where the desert dweller can sleep the deep sleep of the open country.---Down to dinner where the hat-check girl and the head waiter give greetings and ask about the southwest, and so out for the evening and finally back to bed in the room of the five doors.

The next morning down in the Department where it takes a couple of hours to go down that block-long hall, meeting the people who give you such a warm welcome and want to know how the rest of the Southwestern gang is getting along.---The rush and hurry of starting the mills to grinding on the various things I have to attend to; slowly the work settles into a routine and the details ebb and flow around one as the major items move down the tide to completion.---The successful attempt to crowd certain plans through before the Holidays so Hub Chase and his boys won't run out of work, and mostly so Hugh can collect that dollar wager from Hub wherein we promised to get those plans signed before Christmas; the final wire that Hub has lost his dollar, the plans are signed and he needn't hold up the work; we imagine the sulphurous joy with which he greets that wire and the pleasure he takes in losing that dollar; those Bandelier buildings are on their way.

The visit to the Lincoln Memorial; the lights of Washington from across the river with the dome of the Capitol dominating the background and the Monument piercing the sky in the foreground.---The magnificent group of buildings along Constitution Avenue which makes every American

RUMINATIONS (CONT.)

proud of a country which can do things in such a big way.---The clamor and battle of Christmas shoppers, the striking beauty of the night-lighting of rain-wet streets; the pleasant roar of the crowd as its tempo steps up at the near approach of the last day to mail the home packages.---Christmas services and the lovely Christmas Day with its congenial companionship.

Back on the train.---The lady in the lounge car who had two too many and insisted on showing the Navy, the Park Service and the man-who-Lost-Three-Million the wonderful photograph of her wonderful twelve year old "boy" who could distinguish "lunch" from "dinner" and could lie down and roll over upon request and had taken many ribbons; the Navy afterward remarking, however, that he had seen a lot of alley cats that could lick the tar out of hers.---The lady who listened to the monologue of her husband coming in over the radio as we were making sixty miles an hour and tried to keep her secret though the barber had told at least four of us who she was.---And, finally, the cold gray dawn as the 5:08 pulled in and Hugh met me, and, too late to go to bed and too early to go to work, he and I and the kid discussing a pot of coffee and a plate of toast and a thousand things before the open fire for three hours until it was eight o'clock and we could go to work.

There's room for Ruminations in all this but how am I going to put any of it down in detail without running off into a hundred ramifications and losing the original thread of the discourse? I pause to run back over them in my mind and Luis looks over from his stencil cutting long enough to say: "About ready with those Ruminations, Boss?" It is no use, Luis, it would take another month to straighten it all out and write anything; let it go as it lies and if these are not ruminations then let's call them pleasant sidelights of a busy month and let it appear elsewhere how profitable the trip was from a business standpoint.

Cordially,

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